ICF-SW55

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SONY
ON/OFF
SLEEP
M1
M2
M3
M4
M5
FM
AM

Specifications

Circuit system LW/MW/SW: Dual conversion superheterodyne
FM: Single conversion, superheterodyne

Frequency range

Type	Frequency coverage			
	FM*	LW	MW	SW
1	76. 0-108MHz	150 ——	——	—— 29, 999. 9kHz
2	87. 5-108MHz	150 ——	——	—— 29, 999. 9kHz
3	87. 5-108MHz	150-285kHz	531——	—— 26, 100kHz
4	87. 5-108MHz	150-285kHz	531-1, 602kHz	3, 850-26, 100kHz

*Stereo reception when using stereo earphones
Type 1: Countries that are not listed below
Type 2: Germany, Austria, and Scandinavian countries
Type 3: Saudi Arabia
Type 4: Italy

Intermediate frequency LW/MW/SW: 55.845MHz (first)
455kHz (second)
FM:10.7MHz

Antennas LW/MW:Built-in ferrite bar antenna
SW/FM:Telescopic antenna

Speaker Approx. 7.7 cm (3 1/8 inches) dia.

Power output 400mW (at 10% harmonic distortion)

Outputs Recording output jack (minijack)
Output level 245 mV (− 10dB)
Output impedance 10 kilohms or less
Earphones jack (stereo minijack)

Power requirements 6VDC
For R6 (size AA) batteries
DC IN 6V jack accepts:
•supplied AC power adaptor

Where purchased	AC power adaptor	Operating voltage
Canadian model	AC-E602	110 − 120V/ 220 − 240V AC. adjustable. 50/60Hz
US model	AC-E604	120V AC, 60Hz
UK model	AC-E603	240V AC, 50Hz
AEP, Germany, French, E. Saudi Arabia, Italian model	AC-E600	110 − 120V/ 220 − 240V AC, adjustable 50/60Hz

•DCC-E160L car battery cord(not supplied)for use with 12V car battery

Battery life Approx. 10 hours (FM reception)
Approx. 7 hours (AM reception)
listening for four hours a day at normal volume. using Sony SUM-3 (NS) batteries.

Dimensions 194 × 127 × 39 mm(w/h/d)
(7¾ × 5 × 1 9/16 inches) including projecting parts and controls with antenna retracted

Weight Approx. 900g(approx. 2lb)
including batteries

– Continued on page 2 –

LW/MW/SW/FM STEREO PLL SYNTHESIZED RECEIVER

SONY®

MICROFILM

Accessories supplied

AC power adaptor* (1)
AC plug adaptor* (1)
Stereo earphones (1)
Earpad (2)
System carrying case (1)
Carrying case (1)
SW compact antenna (1)
External antenna connector (1)
"Wave Handbook" only English version(1)
"How to Catch the Wave" only English version (1)
Quick reference (1)
Preset frequency list (1)
* Not provided with certain models

Design and specifications subject to change without notice.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

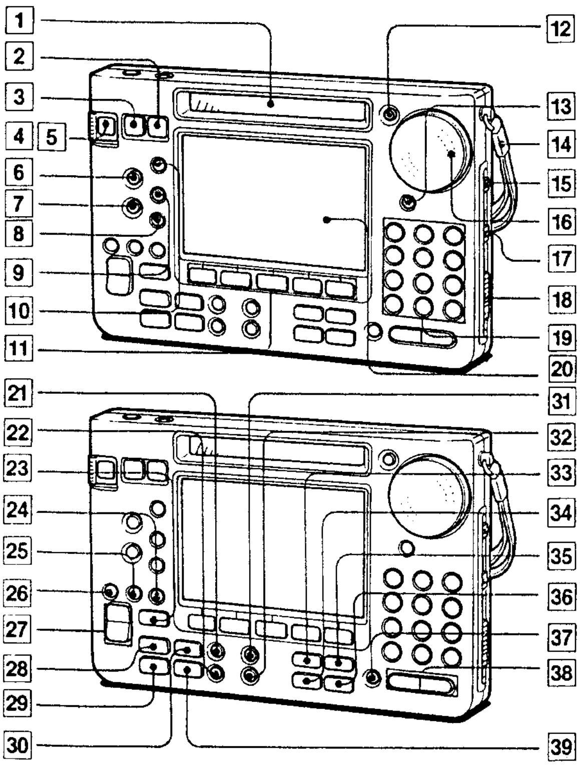
SECTION 1
GENERAL

This section is extracted from instruction manual.

Location and Function of Controls

See the pages indicated in ● for details.

Front and Right Side Panel



[1] Speaker duct
[2] STANDBY button ㊴
[3] SLEEP (sleep timer) button ㊻
[4] ON/OFF (power) button
[5] POWER/LOCK switch

Set this switch to POWER, then press the ON/OFF button to turn on the radio. Set the switch to LOCK when carrying the radio. When this switch is set to LOCK, the power will not turn on nor the timer activate even if you accidentally press the ON/OFF button.

[6] NIGHT/TIME DIFF (night/time difference) button ⑳
[7] WORLD TIME button ⑲
[8] SUMMER (summer time or "daylight saving time") ON/OFF button ⑮
[9] TIME DIFF SET (time difference set) button⑮
[10] UTC/LOCAL (Universal Time Coordinated/local) button ⑮
[11] M1, M2, M3, M4, M5 (memory 1 – 5) buttons ㉑

[12] KEY PROTECT o⊸ button ㉔

While this button is pressed, all the functions of the buttons and dial are locked.

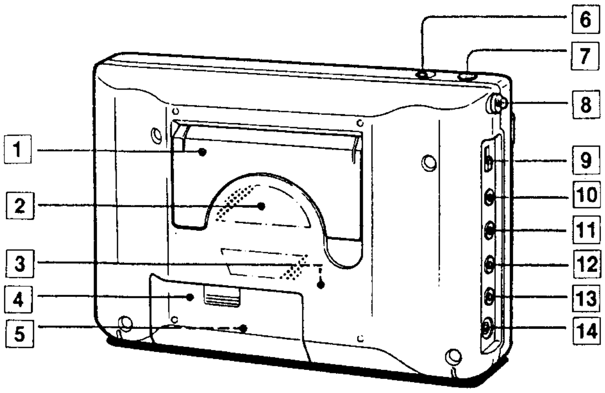
[13] FAST/SLOW/LOCK (dial tuning mode and lock) button ㉕ ㉖
[14] Hand strap
[15] MONO STEREO (monoaural/stereo) selector ㉔
[16] TUNE/JOG dial
[17] TONE selector ㉔

MUSIC: for listening to music
NORM: for normal listening
NEWS: for listening to news

[18] VOLUME control ㉑
[19] DIRECT TUNING numeric buttons/letter, ⊙ (hours) and EXE (execute) buttons ㉓ ㊳ ㊷
[20] Display window
[21] START TIME button ㊳
[22] ALARM TIME button ㊷
[23] LAST PAGE button ㉞
[24] ERASE button ㉝
[25] ENTER button ㉜
[26] CHECK button ㉝
[27] PAGE FEED +/– buttons ㉑
[28] TIMER MEMORY button ㉜
[29] AM FUNCTION button ㉗ ㉘
[30] TIMER SET button ㊲
[31] OPR TIME (operation time) button ㊳
[32] BEEP TYPE button ㊸
[33] FM (ABC...) button ㉓ ㊱
[34] AM BAND – (DELETE) button ㉖ ㊱
[35] AM (123...) button ㉓ ㊱
[36] AM BAND + (INSERT) button ㉖ ㊱
[37] LABEL EDIT button ㉟
[38] STEP/SCAN buttons ㉖
[39] ALARM SET button ㊷

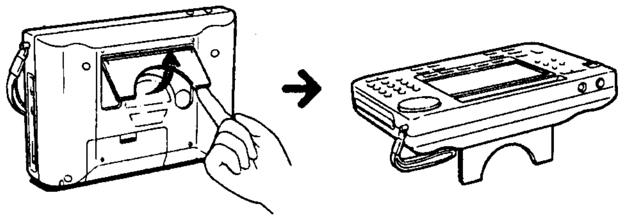
Location and Function of Controls

Rear, Left Side and Upper Panel



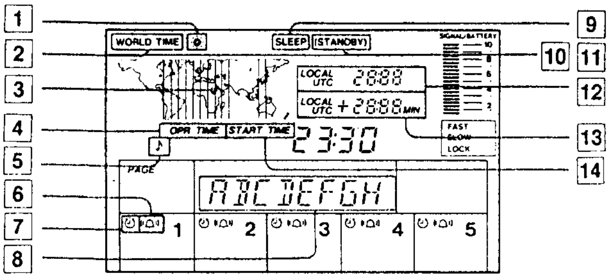
1 Stand ⑨
2 Speaker
3 Buzzer
4 Battery compartment ⑫
5 Reset button (inside the battery compartment)
Press this button with something like a toothpick, when the unit functions incorrectly because of an electric discharge caused by static electricity, etc.
When this button is pressed, all the memorized data except for the page memory (pages from 1 to 25) will be erased.
6 TIME SET button ⑮
7 LIGHT/BATT CHECK (light/battery check) button ⑫
Press to illuminate the display window for about 15 seconds or to check the battery condition. The duration of the illumination is prolonged while you operate the unit. To put off, press this button again.
8 Telescopic antenna ㉒
9 AM SENS (AM sensitivity) selector ㉔
10 AM EXT ANT (AM external antenna) jack ㊽
11 TAPE REMOTE jack (51)
12 TAPE LINE OUT jack (stereo mini jack) ㊿ (51)
13 🎧 (stereo earphones) jack
Connect the stereo earphones for private listening.
14 DC IN 6V ⊖⊙⊕ (external power input) jack ⑭

How to use the stand



Location and Function of Controls

Clock/Timer Display


1
2
3
4
5
6
7
8
9
10
11
12
13
14
WORLD TIME
SLEEP
(STANDBY)
SIGNAL/BATTERY
LOCAL UTC 2888
LOCAL UTC + 2888 MIN
OPR TIME
START TIME
2330
FAST
SLOW
LOCK
PAGE
ABCDEFGH
1
2
3
4
5

1 ☼ Summer time indication ⑮

2 WORLD TIME indication ⑲

3 Night indication and area (time difference) indication ⑳

4 OPR TIME (operation time) indication ㊳
Appears when the time length of the timer operation is set.

5 ♪ Beep indication ㊷

6 Alarm indication ㊸

7 Timer indication ㊳ ㊴

8 LABEL display – TIMER (M) (timer memory), ∗TIMER∗ (timer setting), memorized title labels, city names, time difference from UTC, appear.

9 SLEEP indication ㊵
Appears when the timer or sleep timer is activated.

10 STANDBY (timer or alarm standby) indication ㊴
Appears when the timer or alarm is reserved.

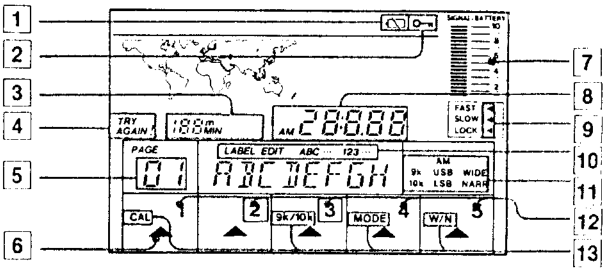
11 (STANDBY) indication ㊴
( ) appears when you set the timer or alarm (or adjust the current time or the time difference) after the unit has been set in the standby condition by pressing the STANDBY button. When (STANDBY) appears, timer or alarm will not activate.

12 LOCAL/UTC current time indication
Indication changes between LOCAL current time and the UTC current time by pressing the UTC/LOCAL button.

13 Time difference indication and remaining time indication of the timer
The meaning of the time difference differs according to LOCAL or UTC indication. (LOCAL indication appears while WORLD TIME is pressed.)
LOCAL: Indicates the time difference between your local time and the time in some other area in the world.
UTC: Indicates the time difference between UTC (Universal Time Coordinated) and your local time.

14 START TIME indication ㊳
Appears when the starting time of the timer or alarm is set.

Radio Reception Display and Others


1
2
3
4
5
6
7
8
9
10
11
12
13
TRY AGAIN!
188 MIN
AM 28888
FAST
SLOW
LOCK
PAGE
01
LABEL EDIT ABC ··· 123
ABCDEFGH
AM
9k USB WIDE
10k LSB NARR
CAL
1
2
9k/10k
3
MODE
4
W/N
5

1 Battery empty indication ⑫

2 Key protect indication ㉔
While this indication appears, all the functions of the buttons and dial are locked.

3 AM band and SW meter band

4 TRY AGAIN! indication ㉔
Appears when the frequency outside the frequency range is input.

5 PAGE number, AL (alarm) FU (AM function) indication

6 ▲ indication
Indicates the memory which is being selected.

7 SIGNAL/BATTERY (signal strength/battery) meter ⑫

8 Band, frequency and CAL indication
CAL appears when power is supplied or when calibration adjustment is made.

9 FAST SLOW LOCK (dial tuning mode) indication ㉖

10 LABEL EDIT indication ㉟

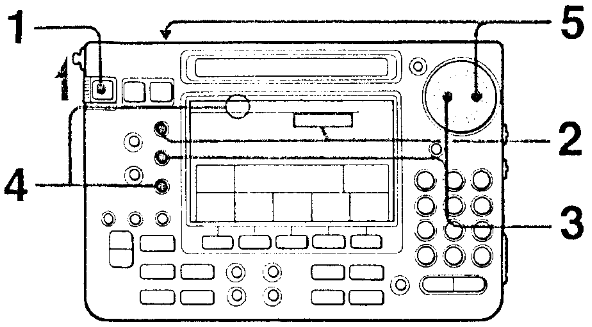
11 AM mode indication
9kHz or 10kHz MW channel step indication
AM USB LSB indication
WIDE NARR (wide or narrow selectivity) indication

12 Memories (1 to 5)
The numbers (from 1 to 5) correspond to memory buttons (M1 to M5). A frame appears around a memory number when the station is preset in that memory.

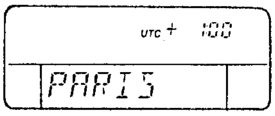
13 AM function indication
CAL (calibration), 9k/10k, MODE (AM, USB or LSB mode), W/N (wide or narrow selectivity).

Setting the Clock

Before setting the clock, check the time difference between the local time in your area and the UTC time by referring to the table in page ⑯. Some city names and their time difference from UTC are already memorized at the factory.



1 Set POWER/LOCK to POWER.
2 Check the current time indication.
When the LOCAL current time appears, skip this step.
When the UTC current time appears, press UTC/LOCAL button.
3 While pressing TIME DIFF SET, turn the TUNE/JOG dial until your city name or the time difference* between your local time and the UTC time appears.



While pressing TIME DIFF SET, the ☼ indication (if already displayed) disappears temporarily.

4 When "summer time" is not used in your area or ☼ is already displayed, skip this step.
Press SUMMER ON/OFF if your area is now in the "summer time" period (under daylight saving time).
☼ appears.
5 While pressing TIME SET, turn the TUNE/JOG dial to adjust the current local time.
The clock starts operating.

Notes

- When pressing TIME SET, city name or time difference appears.
- Current UTC time is displayed when you press the UTC/LOCAL button. (UTC indication appears).

*Here, this means time difference during the standard time as shown in the table in page ⑯ (not under daylight saving time).

Setting the Clock

Zero second adjustment

If you want to adjust the time exactly to the second with a telephone time signal, proceed as in the following example.
Example: To set to 15:15

1 Adjust the time indication to 15:15 in step 5 in page ⑮, release TUNE/JOG but keep TIME SET pressed.
2 Release TIME SET simultaneously with the telephone time signal. The clock begins to show the precise time.

Note

Zero second adjustment is not made by pressing TIME SET only. Once turn the TUNE/JOG dial while pressing TIME SET.

Difference between local time and UTC (Universal Time Coordinated)

The table shows the difference between the local time and the UTC time in each area. The differences marked with a plus sign (+) indicate the number of hours ahead of the UTC. The differences marked with a minus sign (−) indicate the number of hours behind the UTC.
To see the time difference during the period for daylight saving time or "Summer Time" (if necessary), add one hour to the difference indicated in the table.

Area or city	Label preset	Time difference
Argentina		−3:00
Buenos Aires	BUENOS A	−3:00
Australia		
Sydney	SYDNEY	+10:00
Darwin		+9:30
Perth	PERTH	+8:00
Austria		+1:00
Vienna	VIENNA	+1:00
Bangladesh		+6:00
Dacca	DACCA	+6:00
Belgium		+1:00
Brussels	BRUSSELS	+1:00
Brazil		
Sao Paulo	SAO PAUL	−3:00
Rio de Janeiro		−3:00
Manaus		−4:00
Canada		
Vancouver	VANCOUVE	−8:00
Calgary	CALGARY	−7:00
Toronto	TORONTO	−5:00
Montreal	MONTREAL	−5:00
Canary Islands	CANARY	+0:00
Chile		−4:00
Santiago	SANTIAGO	−4:00

Area or city	Label preset	Time difference
China (P.R.)		+8:00
Beijing	BEIJING	+8:00
Denmark		+1:00
Ecuador		−5:00
Egypt		+2:00
Cairo	CAIRO	+2:00
Fiji Island	FIJI	+12:00
Finland		+2:00
Helsinki	HELSINKI	+2:00
France		+1:00
Paris	PARIS	+1:00
Germany		+1:00
Berlin	BERLIN	+1:00
Greece		+2:00
Athens	ATHENS	+2:00
Hawaii		−10:00
Honolulu	HONOLULU	−10:00
Hong Kong	HONGKONG	+8:00
India		+5:30
Calcutta	CALCUTTA	+5:30
Indonesia		
Jakarta	JAKARTA	+7:00
Iran		+3:30
Tehran	TEHRAN	+3:30
Italy		+1:00
Rome	ROME	+1:00
Japan		+9:00
Tokyo	TOKYO	+9:00
Kenya		+3:00
Nairobi	NAIROBI	+3:00
Korea (D.P.R.)		+9:00
Seoul	SEOUL	+9:00
Malaysia		+8:00
Mexico		
Tijuana		−8:00
Acapulco	ACAPULCO	−6:00
Mexico	MEXICO	−6:00
Maldives	MALDIVES	+5:00
Netherlands		+1:00
Amsterdam	AMSTERDA	+1:00
New Caledonia		+11:00
Noumea	NOUMEA	+11:00
New Zealand		+12:00
Auckland	AUCKLAND	+12:00
Norway		+1:00
Pakistan		+5:00
Karachi	KARACHI	+5:00

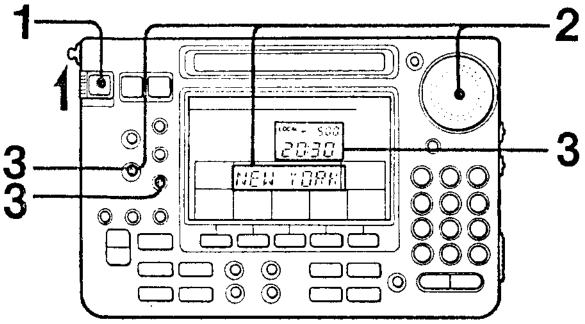
Setting the Clock

Area or city	Label preset	Time difference
Panama		−5:00
Panama	PANAMA	−5:00
Peru		−5:00
Lima	LIMA	−5:00
Philippines		+8:00
Poland		+1:00
Portugal		+0:00
Saudi Arabia		+3:00
Riyadh	RIYADH	+3:00
Senegal		+0:00
Dakar	DAKAR	+0:00
Singapore	SINGAPOR	+8:00
Spain		+1:00
Madrid	MADRID	+1:00
Sri Lanka		+5:30
Sweden		+1:00
Stockholm	STOCKHOL	+1:00
Switzerland		+1:00
Zurich	ZURICH	+1:00
Tahiti Island		−10:00
Taiwan		+8:00
Thailand		+7:00
Bangkok	BANGKOK	+7:00
United Arab Emirates		+4:00
Dubai	DUBAI	+4:00
United Kingdom		+0:00
London	LONDON	+0:00
USA		
Anchorage	ANCHORAG	−9:00
San Francisco	SAN FRAN	−8:00
Los Angeles	LOS ANGE	−8:00
Denver	DENVER	−7:00
Chicago	CHICAGO	−6:00
Dallas	DALLAS	−6:00
New York	NEW YORK	−5:00
USSR		
Moscow	MOSCOW	+2:00
Venezuela		−4:00
Caracas	CARACAS	−4:00

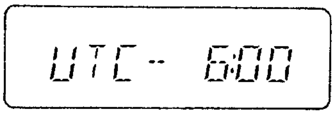
For areas where "summer time" (daylight saving time) is used
Press SUMMER ON/OFF during the summer time period to make ☼ appear, as stated in step 4 in page ⑮, and press again at the end of the summer time. The time indication will be changed automatically. When the clock has been set during the standard time period, press SUMMER ON/OFF at the beginning of the summer time. The time indication will change to the summer time indication.

How to Know the Current Time in Some Place in the World

Even while you are listening to the radio, you can know the time in some other place in the world without affecting the radio reception.



1 Set POWER/LOCK to POWER.
2 While pressing WORLD TIME, turn the TUNE/JOG dial until the desired city name or the time difference* between desired place and the UTC appears.



3 Keep pressing WORLD TIME. Keep pressing SUMMER ON/OFF if your desired place is in the summer time period. Read the time shown in the display.
Also you can read the time difference between your local time and the time in your desired place, which is displayed just above the current time.

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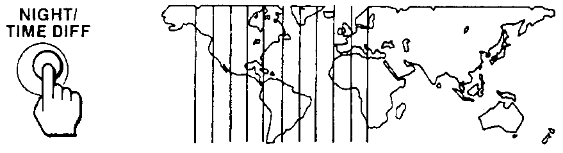
*Here, this means time difference as shown in the table in page ⑮.

Setting the Clock

How to Know the Night Area in the World



Press NIGHT/TIME DIFF.
The area on the world map where it is night (from about 18:00 to 6:00) will be shaded. This is useful as a reference for better reception of SW, because SW is received better in the nighttime than in the daytime.

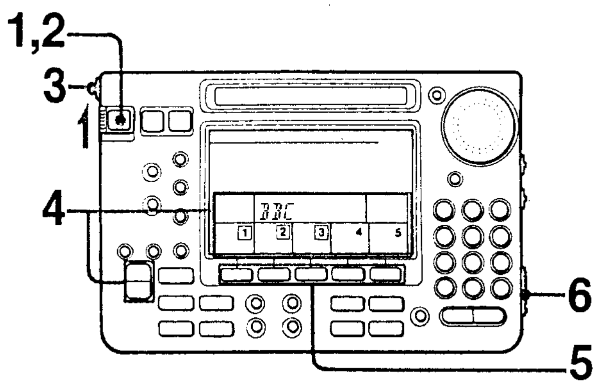
When You Move from One Place to Another

Adjust the time difference only. Local time can be changed by adjusting the time difference.

Note
The UTC time, local time and the time difference are related to each other as follows:
(Time difference) = (Local time) – (UTC time)

Preset Station Tuning

Once the frequencies of the stations are preset, you can tune in the station easily just by selecting the page and pressing the necessary memory button.
Some stations are already preset in this unit at the factory.
Let's try to receive some of the preset stations.



The illustration does not necessarily show the preset memory or station.

1 Set POWER/LOCK to POWER.
2 Press ON/OFF.
3 Extend the antenna. See page ㉒.
4 Press PAGE FEED + or – to find a page where a title label is already written.
  A frame appears around the memory number.
5 Press an M1 – M5 which corresponds to the memory number inside a frame.
6 Adjust VOLUME.

After listening, turn off the radio by pressing ON/OFF.

You can also preset the stations according to your own preference. See page ㉜.

Notes

- Tuning conditions differ very much according to the area, time, broadcasting condition, etc., so you may not be able to tune in the station with these procedures. If you cannot, try another memory or page for another station.
- When power is supplied, calibration adjustment is made automatically. (CAL indication appears.) But, when transporting the unit to a place where the temperature is very different than before, proceed as follows:
  1 Press AM.
  2 Press AM FUNCTION.
  3 Press M1.
    AM calibration adjustment will be made in a moment.
  4 Press AM FUNCTION again.

Preset Station Tuning

To Improve Receiving Condition

Adjust the antenna as illustrated.

For LW/MW reception

Retract the telescopic antenna. The built-in ferrite bar antenna activates. Since this antenna is directional, rotate the unit horizontally for optimum direction.

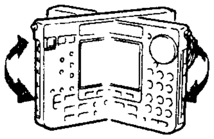
For SW reception

Pull out the telescopic antenna to its full length and set it vertically.

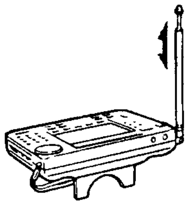
For FM reception

Pull out the telescopic antenna to expose its swivel base and adjust its length, angle and direction.

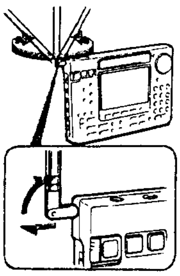
LW/MW



SW



FM

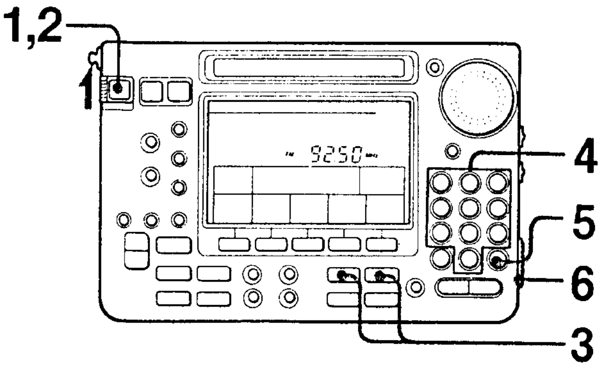


Notes

- Adjust the antenna within the range as illustrated. Be careful not to turn the antenna forcibly because it might be broken.
- If there is a fluorescent lamp just above the radio and the reception is noisy, keep the radio away from the lamp.
- If reception is unsatisfactory with the telescopic antenna or the built-in ferrite bar antenna, connect an external antenna for AM (LW/MW) and SW. See page ㊼ for details.
  External antenna connection for FM cannot be done.
- In vehicles or buildings, radio reception may be difficult or noisy. Try listening near the window.
- If the received sound is distorted or noisy, adjust the antenna carefully.

Direct Tuning

If you know the frequency of a station to be received, you can tune in the station easily by direct tuning.

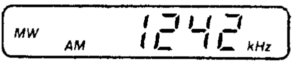


1. Set POWER/LOCK to POWER.
2. Press ON/OFF.
3. Select the desired band by pressing FM or AM.
   For LW, MW or SW, press AM.
4. Input the frequency of the desired station by pressing DIRECT TUNING numeric buttons.
5. Press EXE.
6. Adjust VOLUME.

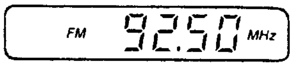
After listening, turn off the radio by pressing ON/OFF.

To input a frequency

Example: AM 1,242kHz
(AM) → ① → ② → ④ → ② → (EXE)

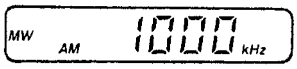


Example: FM 92.5MHz
(FM) → ⑨ → ② → ⑤ → (EXE)

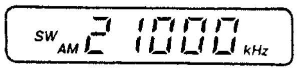


To input an AM frequency whose three digits are all 0

Example: AM 1,000kHz
(AM) → ① → (EXE)



Example: AM 21,000kHz
(AM) → ② → ① → (EXE)



Direct Tuning

Notes

- After pressing a numeric button, press next one within 5 seconds. If you do not, the indication will return to the previously received station.
- With direct tuning, the frequency is displayed in steps of the following intervals, depending on the band.
  AM: 1kHz
  FM: 0.05MHz
  If you input a frequency between the intervals, the frequency at the interval just below will be tuned in and displayed.
  For example, if you input FM 92.59MHz, FM 92.55MHz will be tuned in and displayed.

If "TRY AGAIN!" indication appears

You have input the frequency outside the frequency range. Try again to input the appropriate frequency.

If you notice a mistake while inputting

Press EXE once and input the frequency again.

On AM SENS selector

For AM reception, normally set AM SENS in the left side to NORM. If the received station is very weak, set it to DX and if received station is too strong to become distorted, set it to LOCAL.

On MONO STEREO selector (only for listening through stereo earphones)

For FM reception, normally set MONO STEREO in the right side to STEREO. When it is hard to hear the broadcast due to noise, set to MONO. The reception will be more stable and noise will be reduced. In this mode, there is no stereo effect.

When you are listening to the news

Set TONE in the right side to NEWS. Human voice will be heard more clearly. When you are listening to music, set it to MUSIC.

What is key protection?

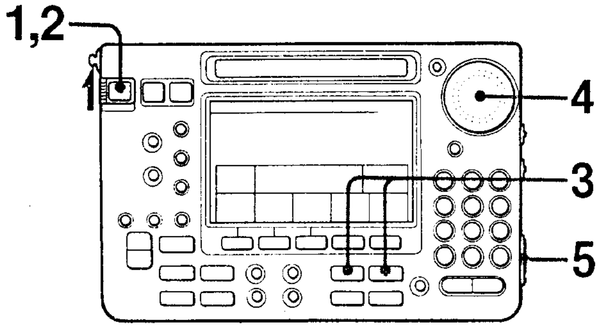
When KEY PROTECT is pressed, O⊸ appears on the display. While it is displayed, all the functions of the buttons and dial are locked, even though you can press or turn them. This prevents accidental change of the received station.
To release the key protection, press KEY PROTECT again.

KEY PROTECT
•O⊸

Manual Tuning

Use manual tuning when you do not know the frequency of the station you want to tune in, or when you want to tune in judging with your own ears. There are two ways of tuning in: Dial tuning and Step tuning.

Dial Tuning



1. Set POWER/LOCK to POWER.
2. Press ON/OFF.
3. Select the desired band by pressing FM or AM.
   For LW, MW or SW reception, press AM.
4. Turn the TUNE/JOG dial to search for the desired staion.
   Turn the dial clockwise for higher frequencies and counterclockwise for lower frequencies.
5. Adjust VOLUME.

After listening, turn off the radio by pressing ON/OFF.

Notes

- The frequency changes in the following steps according to the dial tuning mode set to FAST or SLOW. Setting is adjusted by the FAST/SLOW/LOCK button.

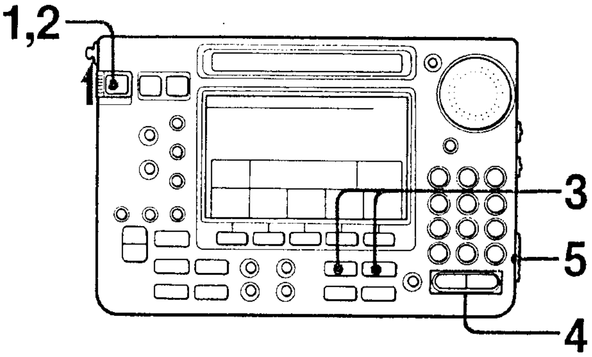
	FAST	SLOW
FM	0.5MHz	0.05MHz
AM	1kHz	approx. 0.1kHz*

*Indication of each 0.1kHz does not appear.

- For AM reception in USB or LSB, set the tuning mode to SLOW and turn the TUNE/JOG dial slowly.

Manual Tuning

Step Tuning



1. Set POWER/LOCK to POWER.
2. Press ON/OFF.
3. Select the desired band by pressing FM or AM.
   For LW, MW or SW reception, press AM.
4. Press the STEP/SCAN -⏮ or ⏭+, to search for the desired station.
   One push changes the AM frequency in the steps shown in the table in page ㉛.
   Tune in the station more precisely with the TUNE/JOG dial.
   For FM, the frequency changes every 0.05MHz.
5. Adjust VOLUME.

After listening, turn off the radio by pressing ON/OFF.

How to use the AM BAND + or AM BAND − button

In AM reception, when you press this button, frequency indication will jump to the lowest frequency in the neighboring frequency range.

To prevent the frequency from fluctuating when the TUNE/JOG dial is accidentally touched

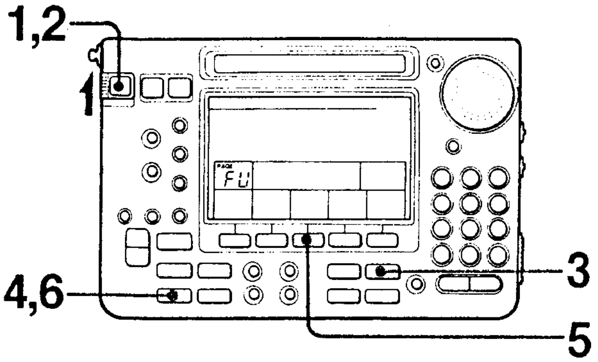
Set the dial tuning mode to LOCK by pressing FAST/SLOW/LOCK.

FAST ◄
SLOW ◄
LOCK ◄

FAST/SLOW
LOCK

MW Channel Step

The MW channel step is factory-set to 9kHz or 10kHz to match the frequency allocation system of the country. If you use the radio where the frequency allocation system is based on the other interval, proceed as follows:



1 Set POWER/LOCK to POWER.
2 Press ON/OFF.
3 Press AM.
4 Press AM FUNCTION.
5 Press M3.
The channel step has been changed.
Display changes to 9k or 10k vice versa.
6 Press AM FUNCTION again.

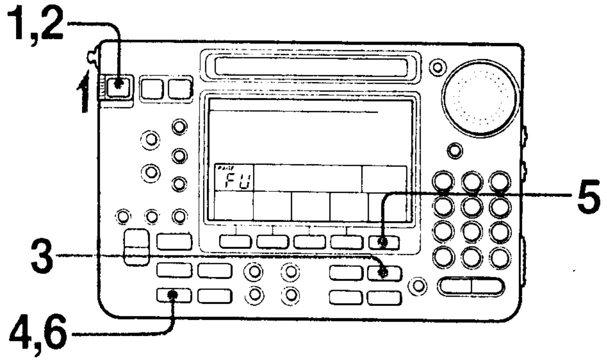
The frequency allocation of the area

Area	Frequency allocation for MW
North America, South America	10kHz step
Other countries	9kHz step

Manual Tuning

Wide or Narrow Band Width in AM

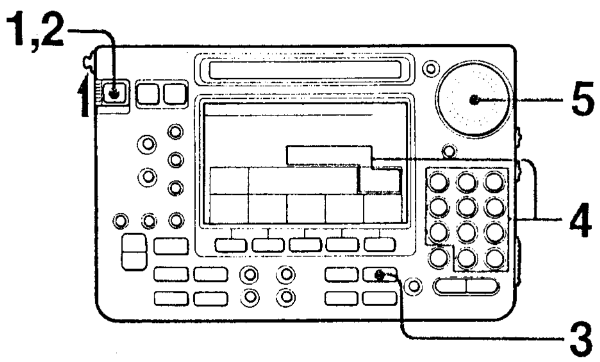
Selectivity for this unit is adjusted WIDE or NARR (narrow) automatically according to the frequency input. But if the reception is poor because of too much noise or interference, proceed as follows:



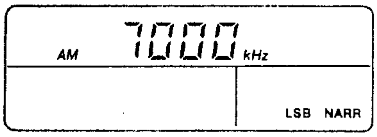
1 Set POWER/LOCK to POWER.
2 Press ON/OFF.
3 Press AM.
4 Press AM FUNCTION.
5 Press M5.
The indication changes to WIDE or NARR vice versa. The reception will be improved.
6 Press AM FUNCTION again.

To Receive the SSB (Single Side Band)

For SSB reception, proceed as follows:



1. Set POWER/LOCK to POWER.
2. Press ON/OFF.
3. Press AM.
4. Input the frequency with DIRECT TUNING numeric buttons and EXE.
   Display changes automatically to LSB or USB according to the frequency input.
   Example: ⑦ → (EXE)



5. Turn the TUNE/JOG dial to find a station.
   Finally tune in with the TUNE/JOG dial with the dial tuning mode set to SLOW.

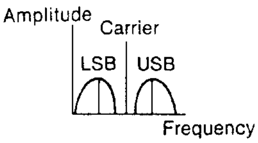
If you want to manually change the display among LSB, USB or AM

Press AM FUNCTION, then press M4.

What is SSB?

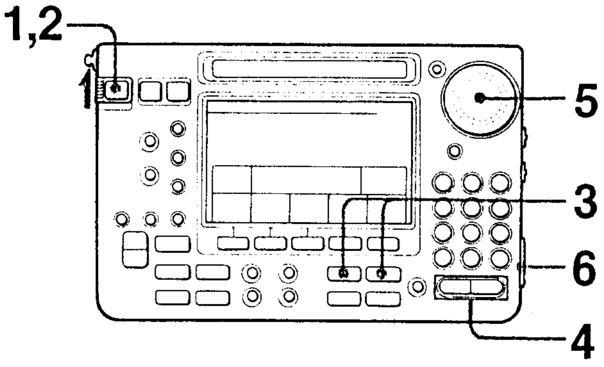
SSB is very popular among ham and business radio and will be found on all of the amateur bands because of its signal intelligibility.

In general, SSB transmissions employ USB modulation, and for amateur bands lower than 10MHz, LSB is often used.



Scan Tuning

Use scan tuning to automatically scan the stations in the frequency range of a broadcast band.



1. Set POWER/LOCK to POWER.
2. Press ON/OFF.
3. Select the desired band by pressing FM or AM.
4. Press STEP/SCAN -⇦ or ⇨+ for about 1 second.
   Within the frequency range of the table in page ㉛, scan tuning will begin and stop automatically when a station is received.
5. Tune in the station more precisely with the TUNE/JOG dial if necessary.
6. Adjust VOLUME.

After listening, turn off the radio by pressing ON/OFF.

The frequency range and tuning interval of each broadcast band

Frequency (kHz)	Display (Meter band)	Repeat scan	Scanning interval	AM Mode
150 – 282	LW	Yes	3kHz	AM WIDE
283 – 530	LW		3kHz	AM WIDE
• 283 – 529	LW		3kHz	AM WIDE
531 – 1602	MW	Yes	9kHz	AM WIDE
• 531 – 1710	MW	Yes	10kHz	AM WIDE
1603 – 2249	SW		5kHz	USB NARROW
•1711 – 2249	SW		5kHz	LSB NARROW
2250 – 2550	120m	Yes	5kHz	AM WIDE
2551 – 3149	SW		5kHz	USB NARROW
3150 – 3450	90m	Yes	5kHz	AM WIDE
3451 – 3499	SW		5kHz	USB NARROW
3500 – 3849	SW		5kHz	LSB NARROW
3850 – 4050	75m	Yes	5kHz	AM WIDE
4051 – 4699	SW		5kHz	USB NARROW
4700 – 5100	60m	Yes	5kHz	AM WIDE
5101 – 5899	SW		5kHz	USB NARROW
5900 – 6250	49m	Yes	5kHz	AM WIDE
6251 – 6999	SW		5kHz	USB NARROW
7000 – 7099	SW		5kHz	LSB NARROW
7100 – 7400	41m	Yes	5kHz	AM WIDE
•7100 – 7400	SW		5kHz	LSB NARROW
7401 – 9399	SW		5kHz	USB NARROW
9400 – 10000	31m	Yes	5kHz	AM WIDE
10001 – 11499	SW		5kHz	USB NARROW
11500 – 12150	25m	Yes	5kHz	AM WIDE
12151 – 13499	SW		5kHz	USB NARROW
13500 – 13900	21m	Yes	5kHz	AM WIDE
13901 – 14999	SW		5kHz	USB NARROW
15000 – 15700	19m	Yes	5kHz	AM WIDE
15701 – 17449	SW		5kHz	USB NARROW
17450 – 18000	16m	Yes	5kHz	AM WIDE
18001 – 21449	SW		5kHz	USB NARROW
21450 – 21950	13m	Yes	5kHz	AM WIDE
21951 – 25599	SW		5kHz	USB NARROW
25600 – 26100	11m	Yes	5kHz	AM WIDE
26101 – 29999	SW		5kHz	USB NARROW

•When MW channel step is 10kHz.

Note

In some countries, it is impossible to receive some frequencies. The frequency ranges which can be received are indicated on the bottom exterior of your unit.

Memorizing Stations

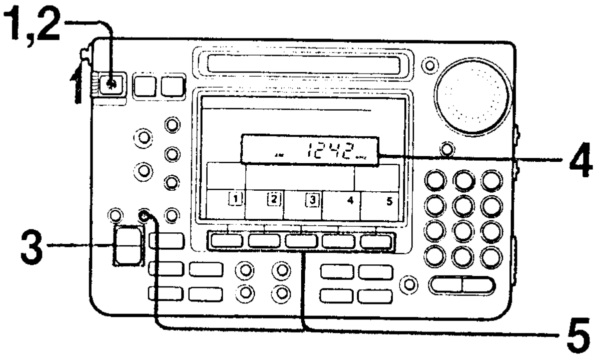
This section describes how to memorize stations for Preset Station Tuning.
Some stations are already preset at the factory.

Note on the page "00"

The preset stations memorized in page "00" can also be used as the memories for timer operation (see page ㊲.)
To memorize in page "00", press TIMER MEMORY in the step 3 of the next section and do the same procedures as described.

How to Memorize a Station in the Pages

Up to 125 stations can be memorized in the pages from 1 to 25 (Each page accommodates 5 stations).



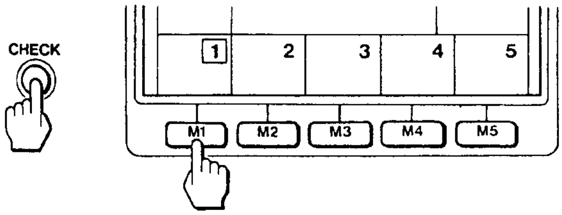
1 Set POWER/LOCK to POWER.
2 Press ON/OFF.
3 Press PAGE FEED + or – to select the desired page for memorizing.
4 Tune in the desired station by direct, manual or scan tuning. (See pages ㉓, ㉕ and ㉚.)
5 While pressing ENTER, press an M1 – M5 which corresponds to the memory number where you want to memorize.
A frame appears around the memory number which tells you that the memorizing has been completed.

Note

Frequency, AM/USB/LSB and AM band width (WIDE or NARR) are memorized.

To check which station is memorized

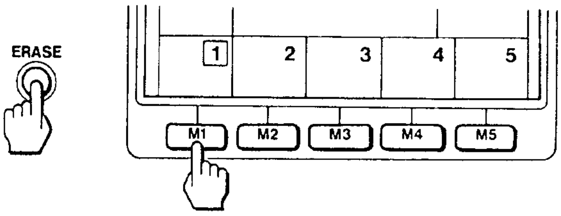
While pressing CHECK, press an M1 to M5 whose memory should be checked. The frequency already preset in that memory is shown in the display independently of the station now being received.



While the memory button is pressed, the SIGNAL meter indication disappears.

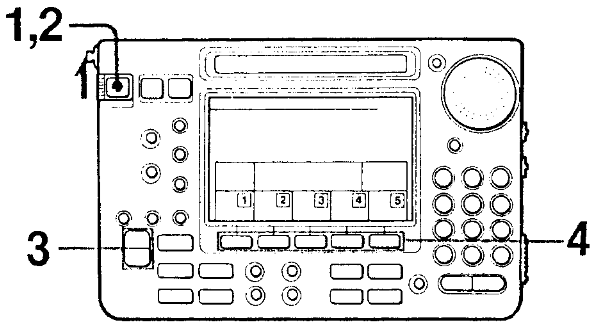
To erase the memorized station

If you memorize a station in the same memory (1 – 5), the previous station is erased automatically. If you want to erase the station without adding a new one: while pressing ERASE, press the corresponding memory button (M1 – M5).
The frame around the memory number disappears which shows that memory has become vacant.



Memorizing Stations

How to Tune in the Memorized Station



1 Set POWER/LOCK to POWER.
2 Press ON/OFF.
3 Press PAGE FEED + or – to select the page.
4 Press an M1 – M5 whose memory number is surrounded with in a frame.

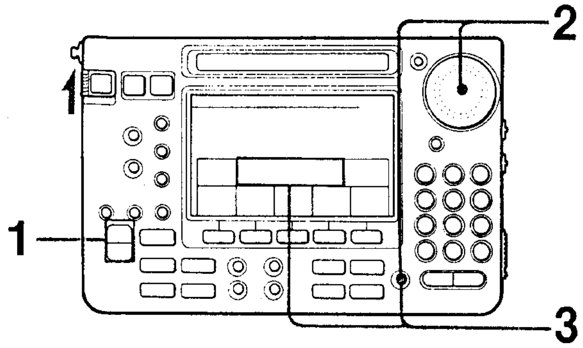
When you go back to the latest page

Each time you press LAST PAGE, the number of the page previously memorized or received is displayed. In total, 8 pages are shown in this descending order. This button is convenient to use to go back to a station you often listen to.

Adding a Title in the Pages (1 – 25)

Titles can be added in each page from 1 to 25. You can also use the titles preset at the factory.
In page "00", TIMER (M) label is already memorized and cannot be erased.

When using a title preset at the factory

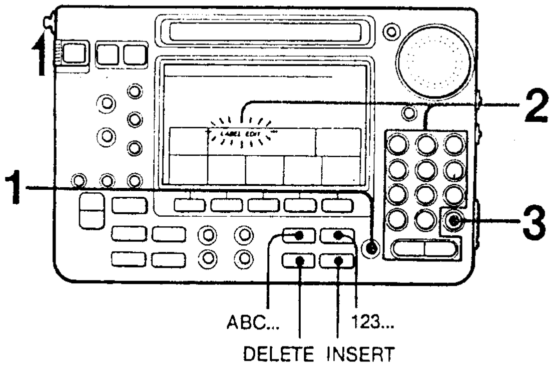


1 Press PAGE FEED + or – to select the page.
2 While pressing LABEL EDIT, turn the TUNE/JOG dial. Titles already preset appear in the display.
3 Release LABEL EDIT when you find the desired title. Now the title label is memorized.

The preset title labels are as follows:
BBC, D-WELLE, R-BEIJIN, R-FRANCE, R-JAPAN, R-MOSCOW, VOA, APPOINTM (appointment), MEETING, TELEPHON (telephone)

When adding your own title

You can make a title which has up to 8 characters Letters, numerals or marks such as ( ) / + – * are used.
Freely think out your own titles such as JAZZ, POPS, NEWS, FM or AM according to the stations memorized in the same page.



1 Press LABEL EDIT.
2 While the LABEL EDIT indication flashes, select the first character with the numeric/letter/mark buttons. Each time you select one character, press STEP/SCAN⇨+, then move to the next character to be selected.
3 At the end of the title, press EXE.
Now your own title label has been memorized.

Note
LABEL EDIT indication flashes for about 20 seconds after pressing any button. When no character is input during this period, the indication returns to the previous condition. In this case, press LABEL EDIT to try again.

To select the character to input

Numeric buttons work as letter buttons when the ABC... (FM) button is pressed and they return to numerals when the 123... (AM) button is pressed. One button comprises three letters. For example, if you press the button "1" continuously, the character changes from A → B → C and A.

To delete or add the character

1 Press LABEL EDIT.
2 Press STEP/SCAN -⇦ or ⇨+ to make the flashing move to the desired position.
3 To delete the flashing character, press DELETE (AM BAND +).
To add a character, press INSERT (AM BAND –) to make a space and select the desired character.
4 Press EXE.

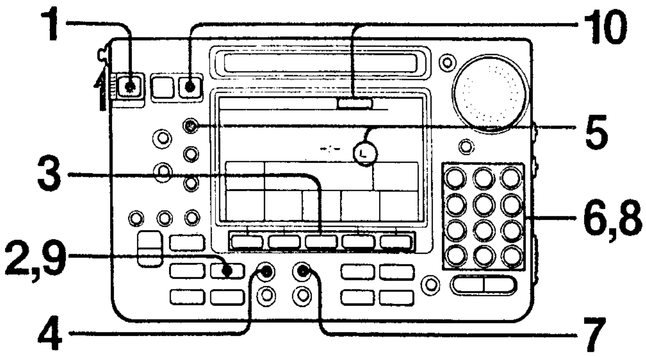
How to Set the Timer

You can set up to 5 different memories for timer operation. The memories are those preset in page "00". (See page ㉜.)

Before setting the timer, make sure that the desired station is memorized in the desired memory number. In page "00", if a frame does not appear around the desired memory number, see page ㉜ and memorize it.

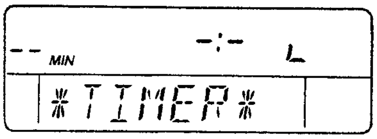
Note

When you take longer than 20 seconds to proceed a step, the unit returns to the condition just before step 2. In this case, proceed again from step 2.



1 Set POWER/LOCK to POWER.
The ON/OFF button can be at either ON or OFF.

2 Press TIMER SET.
A frame appears around the memory number where the station is memorized in page "00".
The ∗TIMER∗ appears. The time itself and operation time appear when they have been already input. These are the memorized contents in the memory which ▲ points.
When nothing is memorized, – (minus) appears.



(To be continued)

How to Set the Timer

(Continued)

3 Press the corresponding M1 to M5 button to place ▲ in the desired memory from 1 to 5. The memories 1–5 correspond to the broadcasting stations preset in page "00".

4 Press START TIME.
The START TIME indication flashes.

5 Check the L or U indication.

-:- L
-:- U
UTC/
LOCAL

L: Timer will be set according to the local time.
U: Timer will be set according to UTC.
To change the indication, press the UTC/LOCAL button.

6 Input the timer-on time directly with the numeric buttons, (:) button, numeric buttons and finally EXE.

Example
② → ② → (:) → ③ → ⓪ → (EXE)

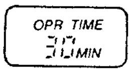
START TIME
22:30

For a little further adjustment, while pressing the START TIME, turn the TUNE/JOG dial.

7 Press OPR TIME.
OPR TIME and MIN flash.

8 Input the time length of the timer operation in minutes (from 1 to 199 minutes) with the numeric buttons and finally press EXE.

Example ③ → ⓪ → (EXE)



⏲ indication appears, but the timer is not completely prepared at this stage. Follow the next steps.
Time length can be also adjusted as follows: While pressing OPR TIME, turn the TUNE/JOG dial.

9 Press TIMER SET to quit the ∗TIMER∗ page.

10 Press STANDBY so that STANDBY indication appears.
When the STANDBY is already indicated, this step is not necessary.

Now the timer is set to activate. At the preset time, selected memory will start even when the power is turned off (but at least POWER/LOCK should be set at POWER) or when you are listening to another station.

Example
In page 00: station A is preset in memory "1"
In memory "1" in ∗TIMER∗ page: the starting time is set at 23:30 and operation time is set for 90 minutes
—Station A will start at 23:30 and disconnect after 90 minutes.
(Remaining time indication reduces from 90 MIN.)

Note on STANDBY button

The STANDBY button activates all the timer and alarm settings at once. After a setting has been completed by pressing the STANDBY button, all new settings in either the timer or alarm page are automatically activated when you quit the page. The (STANDBY) indication which appeared during the setting changes to STANDBY at that time and the unit enters the standby condition. If you press the STANDBY button again (in step 10), all the settings will be deactivated and the unit will not operate at the set time.
You should be accustomed to make sure the indication STANDBY when using timer or alarm!

What is ⏲ mark?

This shows that the following three conditions are satisfied:

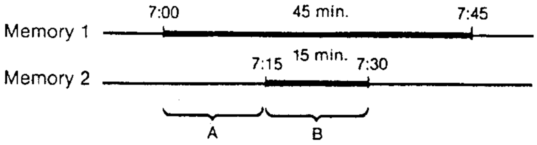
- A station is preset in that memory.
- Timer-on time is set.
- Timer operation time is set.

But this does not mean that the timer is set. Always make sure of the STANDBY indication after timer setting. When STANDBY indication does not appear, the timer will NOT activate.

How to Set the Timer

When two or more memories overlap, priority is transferred one and after to the memory whose timer-on time is the earliest.

Example
Memory 1 (station A is preset)
Memory 2 (station B is preset)



Station A starts at 7:00 and will be replaced with station B at 7:15 and station B will stop at 7:30. At that time, station A will not start again and the power will be disconnected.

Notes

- When you press TIMER SET while the STANDBY indication appears, the indication changes to (STANDBY). If the start time already set comes before you quit the ∗TIMER∗ page, the timer operation will be canceled.
  This also happens in alarm setting, in current time adjustment and in time difference adjustment. If start time comes during these operations, the timer operation will be canceled.
- When the timer activates, SLEEP indication and remaining time indication appear, and they disappear when the remaining time elapses.
- Sound volume of the radio activated by the timer, depends on the VOLUME control setting.

To Cancel the Timer Setting

Once you set the timer, the timer will activate at the same time everyday until you release it. To cancel the unnecessary timer operation on a particular day without completely erasing the setting, proceed as follows:

1. Set POWER/LOCK to POWER.
2. Press TIMER SET.
   ∗TIMER∗ appears.
3. Press the M1 – M5 corresponding to the timer memory you don't need that day and press STANDBY.
   The ⏲ mark will disappear from the corresponding memory.
   Pushing STANDBY again, resets the timer operation. The ⏲ mark will come on again.
4. Press TIMER SET.

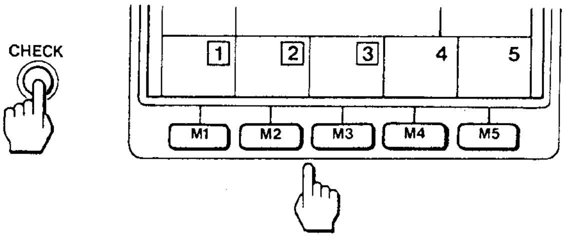
To Erase the Timer Setting Completely

Once you set the timer, the timer will activate everyday. To completely erase the timer setting, proceed as follows:

1. Set POWER/LOCK to POWER.
2. Press TIMER SET.
   ∗TIMER∗ appears.
3. While pressing ERASE, press the corresponding M1 – M5 (regardless of the ▲ position).
   The settings for start time and operation time in that memory will be cleared.
4. Press TIMER SET.

To Check the Station in Page "00" during Timer Setting

While pressing CHECK, press an M1 – M5 whose corresponding memory you want to know (a frame appears around the memory number). While CHECK is pressed, the frequency of the station preset in that memory is displayed.

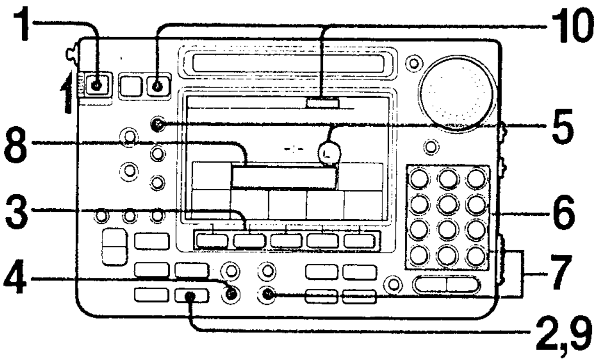


How to Set the Alarm

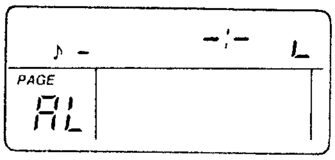
5 settings of the alarm will tell you the time by buzzer and/or indication.

Note

When you take longer time than 20 seconds to proceed a step, the unit returns to the condition just before step 2. In this case, proceed again from step 2.

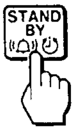


1. Set POWER/LOCK to POWER.
   The ON/OFF button can be at either ON or OFF.
2. Press ALARM SET.
   "AL" indication appears. The time itself and beep type appear when they have been already input. These are the memorized contents in the memory which "▲" points.
   When nothing is memorized, – (minus) appears.



3. Select the memory with an M1 – M5.
   The ▲ mark will move to the corresponding memory 1 - 5.
4. Press ALARM TIME.
   START TIME indication flashes.
5. Check the L or U indication.
   L: Alarm will be set according to the local time.
   U: Alarm will be set according to the UTC.
   To change the indication, press UTC/LOCAL button.
6. Input the alarm-on time.
   Input the time directly with the numeric buttons, ⊙ button, numeric buttons and finally EXE.
   For further adjustment, while pressing ALARM TIME, turn the TUNE/JOG dial.

7 Press BEEP TYPE and select the type of alarm sound with the numeric buttons and EXE. The trial beep will sound when pressing numeric buttons (except for the beep type 0).
   Beep type 0 ... No sound but title will appear and 🔔 will flash to notify you without disturbing others.
   Beep type 1 – 8 ... Beep sound will be heard once to 8 times.
   Beep type 9 ... Wake-up beep will sound.
   Now 🔔 appears in the selected memory.
   Beep type can be also selected as follows: While pressing BEEP TYPE, turn the TUNE/JOG dial to select from 0 to 9. The trial beep will sound when BEEP TYPE is released (except for the beep type 0).
8 Enter the alarm title for each memory in the same way as for title editing on page (35), if necessary.
   The alarm is not completely set at this stage. Follow the next steps.
9 Press ALARM SET to quit the alarm page.
   "AL" indication disappears.
10 Press STANDBY so that STANDBY indication appears.
   If STANDBY has been already indicated, this step is not necessary.



Now the alarm is set to activate.
At the time set, buzzer sound will be heard and the 🔔 mark in the selected memory will flash. The display will be illuminated for about 15 seconds.
The title will continue to be displayed for about 1 hour. To make the title disappear, press any button. (If 🔑 is displayed, press KEY PROTECT and then press any other button.)
Wake-up beep (beep type 9) will continue for about 1 hour. To stop the beep, press any button.

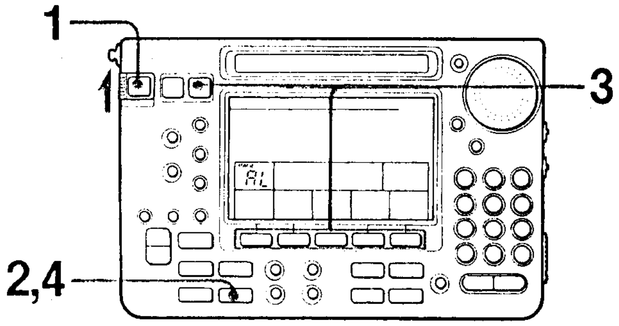
Note on STANDBY button

The STANDBY button activates all the timer and alarm settings at once. After a setting has been completed by pressing the STANDBY button, all new settings in either the timer or alarm page are automatically activated when you quit the page. See page (39) for details.

How to Set the Alarm

To Cancel the Alarm Setting

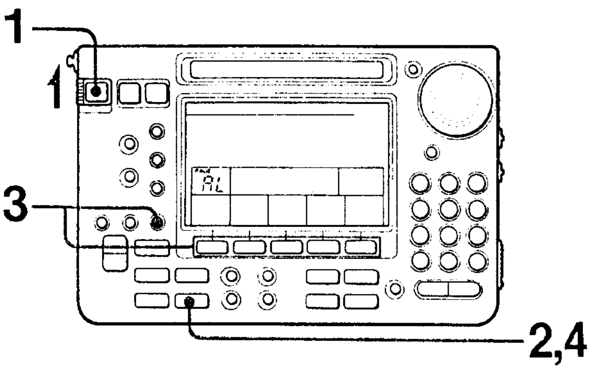
Once you set the alarm, the alarm will activate at the same time everyday until you release it. To cancel the unnecessary alarm operation on a particular day without completely erasing the setting, proceed as follows:



1 Set POWER/LOCK to POWER.
2 Press ALARM SET.
3 Press the M1 – M5 button corresponding to the alarm memory you don't need that day and press STANDBY.
   The 🔔 mark will disappear from the corresponding memory.
   Pushing STANDBY again, resets the alarm operation. The 🔔 mark will come on again.
4 Press ALARM SET.

To Erase the Alarm Completely

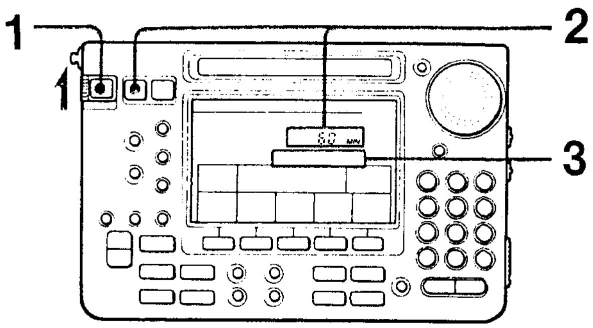
Once you set the alarm, the alarm will activate everyday.
To completely erase the alarm setting, proceed as follows:



1 Set POWER/LOCK to POWER.
2 Press ALARM SET.
"AL" appears.
3 While pressing ERASE, press M1 – M5 (regardless of the ▲ position) of the alarm memory you want to cancel.
The settings for alarm time and beep type in that memory will be cleared. (Title label will remain.)
4 Press ALARM SET.

Sleep Timer Operation

You can fall asleep while listening to the radio.



1 Set POWER/LOCK to POWER.
The ON/OFF can be at either ON or OFF.
2 Press SLEEP until desired time length of timer is displayed.
It changes from 60 → 45 → 30 → 15 minutes.
3 Tune in the desired station and adjust the volume.

The radio will be turned off automatically after the time set.

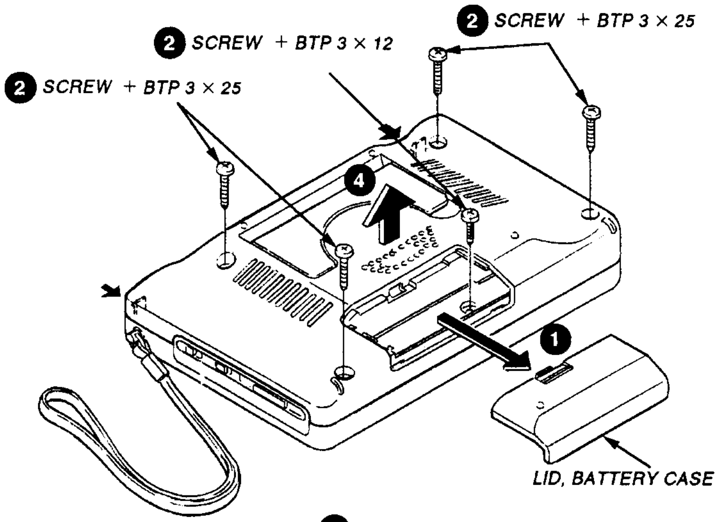
To turn off the radio before the time being set
Press ON/OFF, or press SLEEP until the UTC time difference is displayed.

When setting both sleep timer and alarm
You can fall asleep listening to the radio and wake up by the alarm.

SECTION 2
DISASSEMBLY

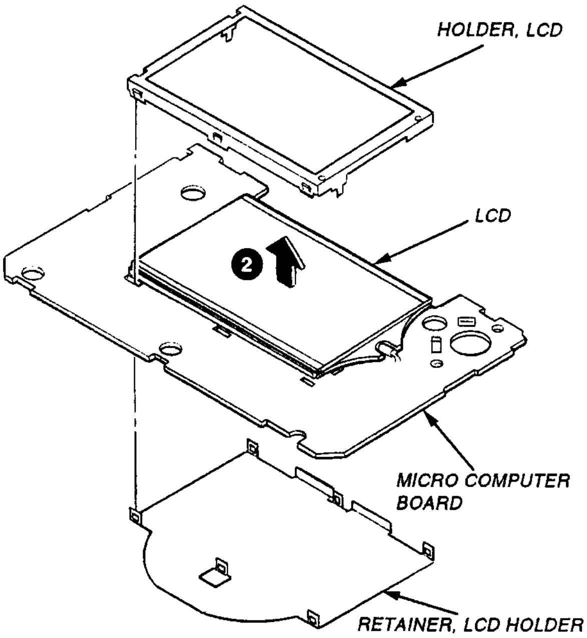
Note: Follow the disassembly procedure in the numerical order given.

2-1. Removal Rear Cabinet


❷ SCREW + BTP 3 × 25
❷ SCREW + BTP 3 × 12
❷ SCREW + BTP 3 × 25
❹
❶
LID, BATTERY CASE

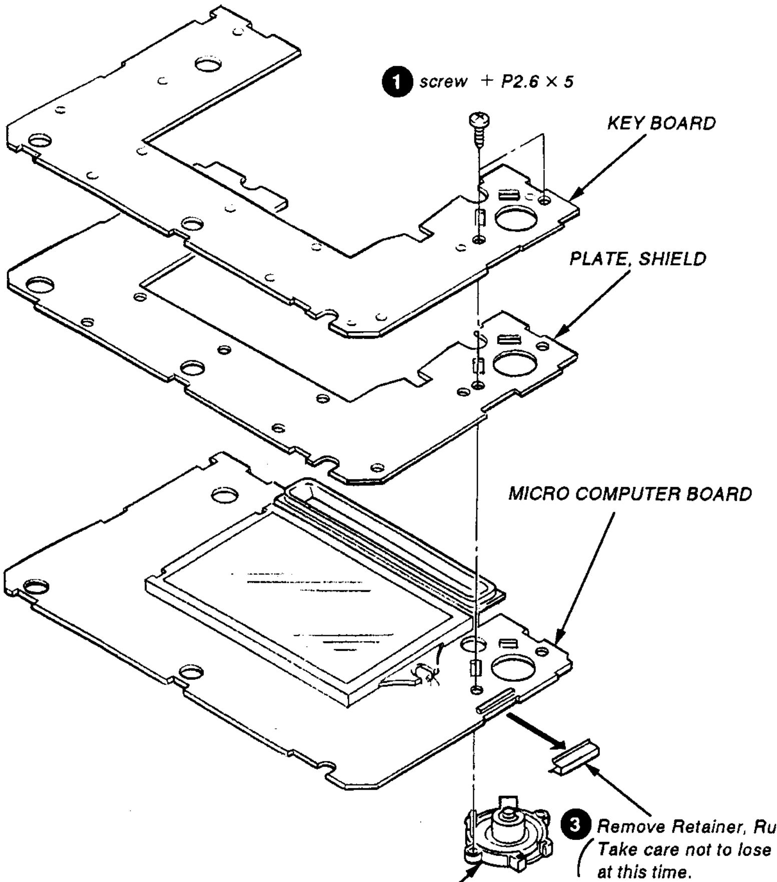
❸ *Release the claws inside with pushing the side of CABINET.(← marks)*

2-2. Removal LCD


HOLDER, LCD
LCD
❷
MICRO COMPUTER BOARD
RETAINER, LCD HOLDER

❶ *Detach Holder, LCD with Retainer, LCD Holder.*

2-3. Removal Key Board


❶ screw + P2.6 × 5
KEY BOARD
PLATE, SHIELD
MICRO COMPUTER BOARD

❸ *Remove Retainer, Rubber Connector.*
(Take care not to lose the Conductor Connection at this time.)

❷ *Detach Holder. (Encoder)*

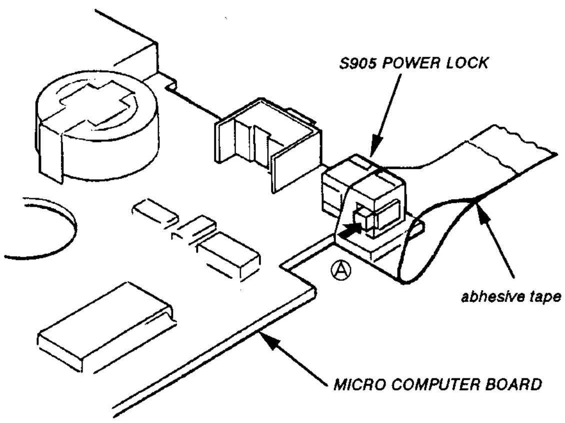
SECTION 3
PORT FUNCTIONS DISCRIPTION

IC904, 905 M6M80021FP

Pin No.	Symbol	Name	Description
1	$\overline{\text{CS}}$	CHIP SELECT IN	• Selects chip at “L”. In case the terminal is at “H”, resets built-in sequential controller. For this reason, set this terminal at “H” once before performing on action in a mode. • In performing of writing in (when busy output is at “L”), it continves to write in despite this terminal is performing input action. • After performed write in, after this terminal is turned to “H” . However in case of “status output” only, write in is feasible when sequence controller is reset and then this terminal remains at “L” after write in started.
2	$\overline{\text{SCK}}$	CLOCK IN	• Reads in input data at rising up edge of the clock. • Data outputs synchronously at falling down of the clock.
3, 8	NC	NO CONNECTION	This is a free terminal and is not connected to the internal circuits, and this terminal can be used as a junction land.
4	DI	DATA IN	Input data.
5	D$\overline{\text{O}}$	DATA OUT	Output data. DI can be connected with D$\overline{\text{O}}$.
6	Vss	GROUND	Ground-return terminal.
7	RESET	RESET IN	• Set to “H” at the time of power ON/OFF. • When set to “H” , sequential controller and write in circuit are reset and performing memory protection. During writing in, the write in is interrupted when this terminal becomes to “H”. • Furthermore, RESET and $\overline{\text{CS}}$ are connectable. However, at such time, during writing in, $\overline{\text{CS}}$ (=RESET) is required to maintain at “L”.
9	RDY/$\overline{\text{BUSY}}$	BUSY OUT	• Turns to “L” during performance of write in. • Turns to “L” at the time of power ON/OFF. At this time, writing in of all inputs are prohibited.
10	V_{DD}	INPUT OF POWER SUPPLY VOLTAGE	Power supply terminal (+5V).

SECTION 4
ELECTRICAL ADJUSTMENT

Preparation


S905 POWER LOCK
Ⓐ
abhesive tape
MICRO COMPUTER BOARD

How to turn the power ON/OFF

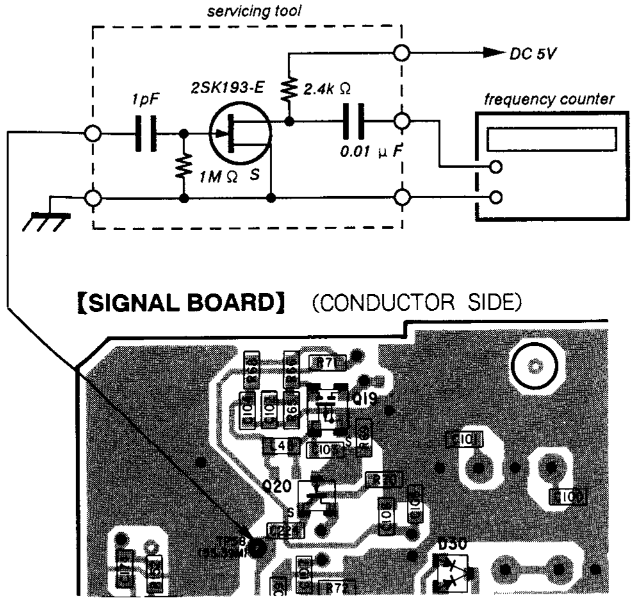
1. Press down portion Ⓐ of S905 (Power Lock) switch by adhesive tape.
2. Push the S148 (ON/OFF) switch on the KEY Board.

AM SECTION

2nd LOCAL ADJUSTMENT

Setup:

VOLUME control: Arbitrary
STEREO/MONO: STEREO
AM SENS: NORM


servicing tool
DC 5V
1pF
2SK193-E
2.4k Ω
0.01 μF
1M Ω
S
frequency counter
[SIGNAL BOARD] (CONDUCTOR SIDE)
Q19
Q20
D30

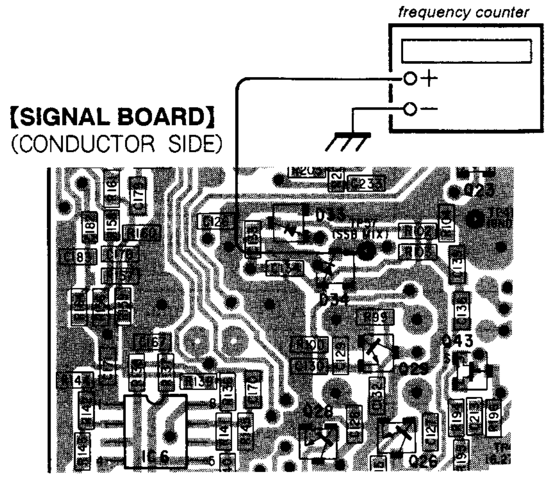
Procedure:

1. Tune the set to AM 150kHz.
2. Adjust T13 to obtain a 55.3912 ± 0.0003MHz on the frequency counter.

BFO ADJUSTMENT

Setup:

VOLUME control: Arbitrary
STEREO/MONO: STEREO
AM SENS: NORM


frequency counter
+
−
[SIGNAL BOARD]
(CONDUCTOR SIDE)
Q23
Q43
Q28
Q29
Q26
IC6

Procedure:

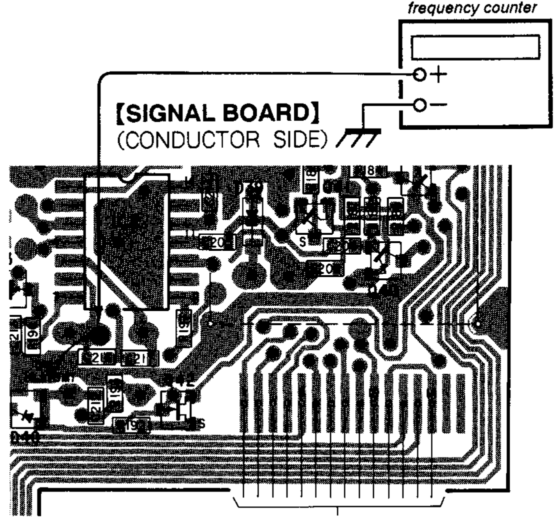
- BFO (USB) ADJUSTMENT
  1. Tune the set to AM 150kHz USB.
  2. Adjust CT1 to obtain a 457 ± 0.05kHz on the frequency counter.

- BFO (LSB) ADJUSTMENT
  1. Tune the set to AM 150kHz LSB.
  2. Adjust CT2 to obtain a 453 ± 0.05kHz on the frequency counter.

PLL ADJUSTMENT

Setup:

VOLUME control: Arbitrary
STEREO/MONO: STEREO


frequency counter
+
−
[SIGNAL BOARD]
(CONDUCTOR SIDE)
Q40

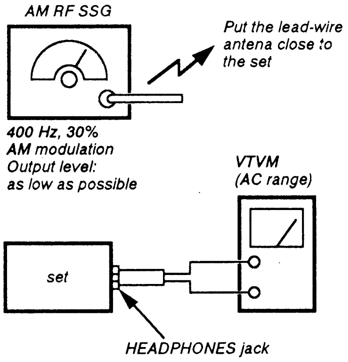
Procedure:

1. Tune the set to AM 4155kHz WI DE.
2. Adjust CT6 to obtain a 60 ± 0.0005MHz on the frequency counter.

AM IF ADJUSTMENT

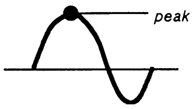
Setup:

VOLUME control: Arbitrary
STEREO/MONO: STEREO


AM RF SSG
Put the lead-wire antena close to the set
400 Hz, 30% AM modulation
Output level: as low as possible
VTVM (AC range)
set
HEADPHONES jack

Procedure:

1. Tune the set to the AM RF SSG frequency.
2. Adjust T4 and T5 for a maximum output level.
3. Final response should be as illustrated bellow.

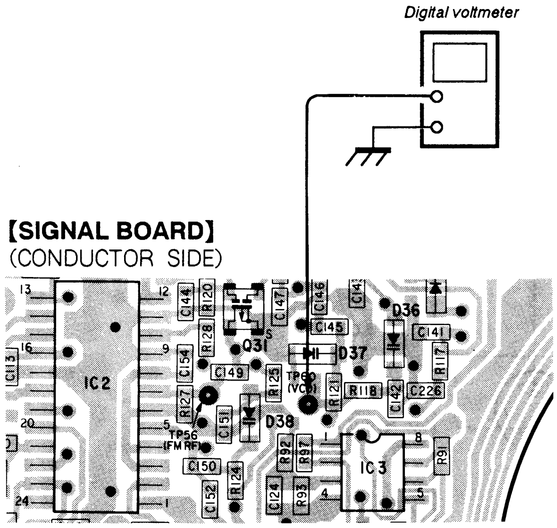


FM SECTION

FM VCO ADJUSTMENT

Setup:

VOLUME control: Arbitrary


Digital voltmeter
[SIGNAL BOARD]
(CONDUCTOR SIDE)
IC2
IC3
Q31
D36
D37
D38
TP60 (VCO)
TP56 (FM RF)
C44
R120
C147
C146
C145
C141
R128
C154
C149
R125
R121
R118
C142
C226
R117
R127
C151
C150
R124
C152
C124
R92
R97
R93
R91
C113

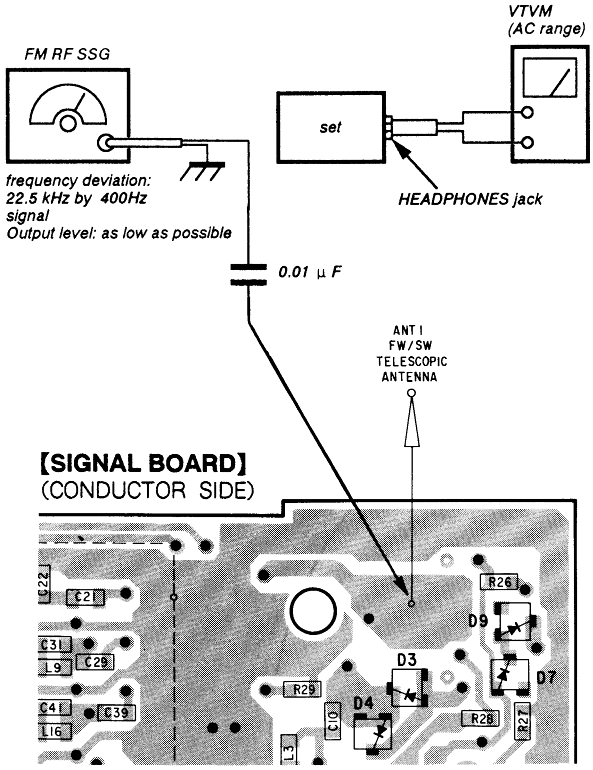
Procedure:

1. Tune the set to 76MHz.
2. Adjust T11 to obtain a 1.8 ± 0.1V on the Digital voltmeter.

FM RF ADJUSTMENT

Setup:

VOLUME control: Arbitrary
AM SENS: DX


FM RF SSG
VTVM (AC range)
set
HEADPHONES jack
frequency deviation: 22.5 kHz by 400Hz signal
Output level: as low as possible
0.01 μ F
ANT I FW/SW TELESCOPIC ANTENNA
[SIGNAL BOARD]
(CONDUCTOR SIDE)
C22
C21
C31
L9
C29
C41
L16
C39
R29
C10
L3
D3
D4
D7
D9
R26
R28
R27

Procedure:

1. Set the frequencies of the FM RF SSG and the frequency display of the set to 76MHz.
2. Adjust T9 and T10 to obtain a maximum reading on the VTVM.
3. Set the frequencies of the FM RF SSG and the frequency display of the set to 108MHz.
4. Adjust CT3 and CT4 to obtain a maximum reading on the VTVM.
5. Repeat the above steps several times.

FM STEREO ADJUSTMENT

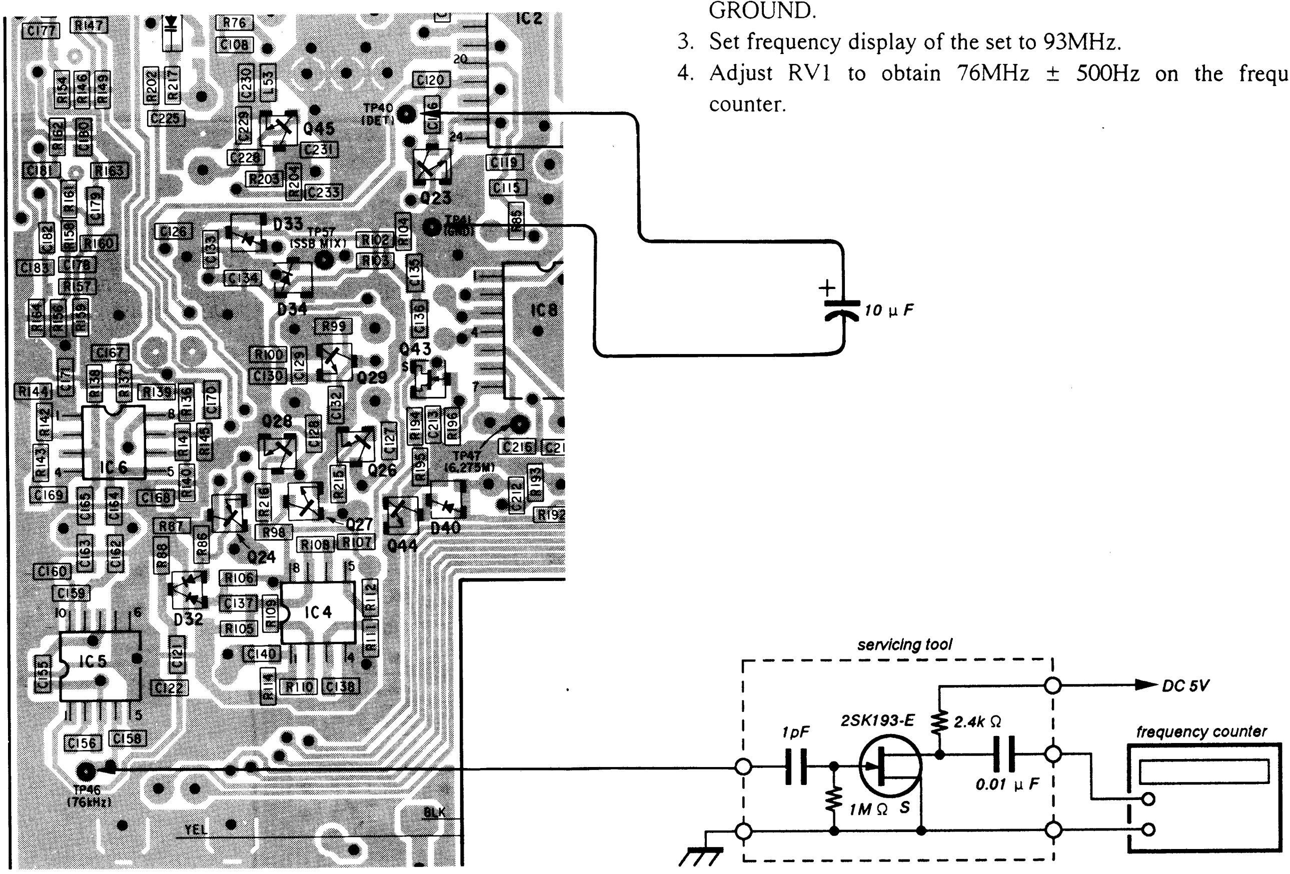
Setup:

VOLUME control: Arbitrary

Procedure:

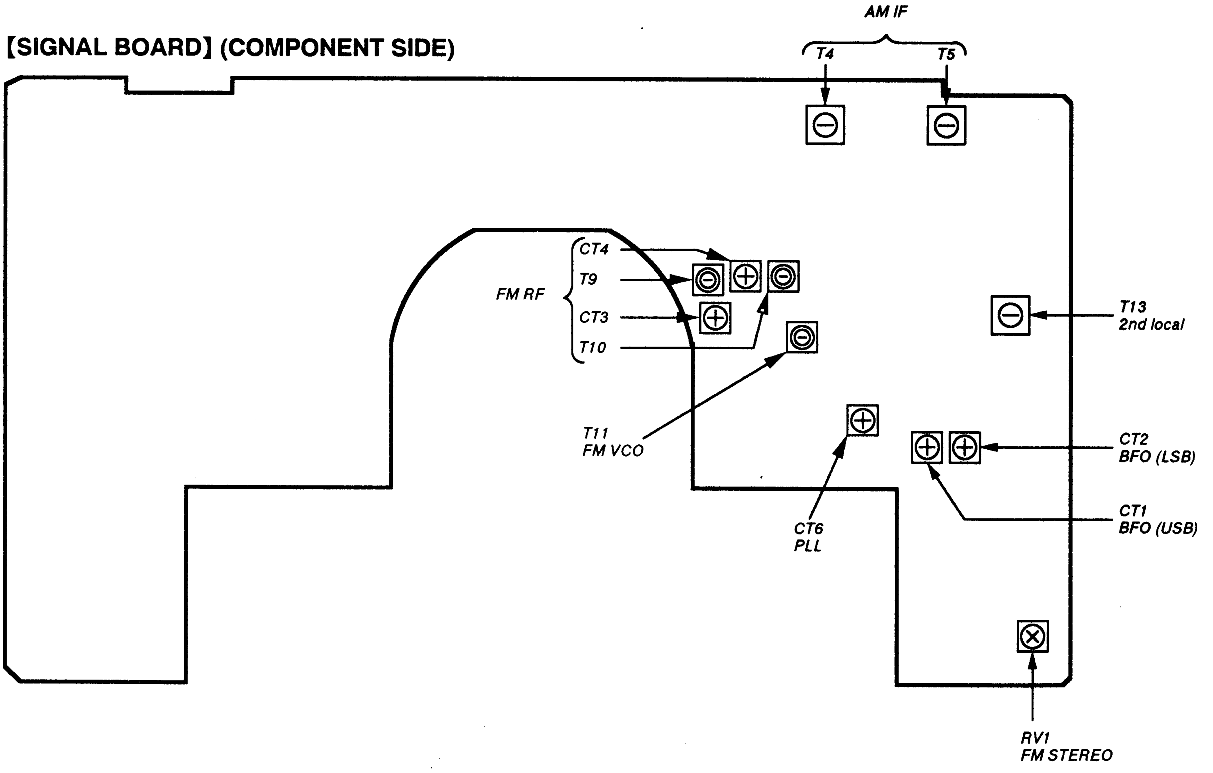
1. Insert HEADPHONES plug into HEADPHONES jack.
2. Connect a capacitor (10 μF) between pin ㉑ of IC2 and GROUND.
3. Set frequency display of the set to 93MHz.
4. Adjust RV1 to obtain 76MHz ± 500Hz on the frequency counter.

[SIGNAL BOARD] (CONDUCTOR SIDE)



IC2
C177
R147
R76
C108
C120
20
24
R154
R146
R149
R202
R217
C230
L53
C229
C225
TP40 (DET)
C116
Q45
R162
C180
C228
C231
C119
C181
R163
R203
R204
C233
Q23
C115
R161
C179
C182
R158
R160
C126
D33
TP57 (SSB MIX)
R102
R104
TP41 (GND)
R85
C183
C178
C133
R103
R167
C134
C135
R164
R156
R159
D34
C136
IC8
R99
C167
R100
C129
Q43
C171
R138
R137
C130
Q29
R144
R139
R136
C170
C132
R142
Q28
C128
R194
R213
R196
TP47 (6.275M)
C216
IC6
R141
R145
C127
R143
C169
C165
C164
C168
R140
R216
R215
Q26
R195
R212
R193
R192
R87
R98
Q27
Q44
D40
C163
C162
R88
R86
Q24
R108
R107
C160
R106
IC4
R112
C159
D32
C137
R109
R111
IC5
R105
C121
C140
C155
C122
R114
R110
C138
C156
C158
TP46 (76kHz)
BLK
YEL
10 μF
servicing tool
DC 5V
1pF
2SK193-E
2.4k Ω
frequency counter
0.01 μF
1M Ω
S

[SIGNAL BOARD] (COMPONENT SIDE)

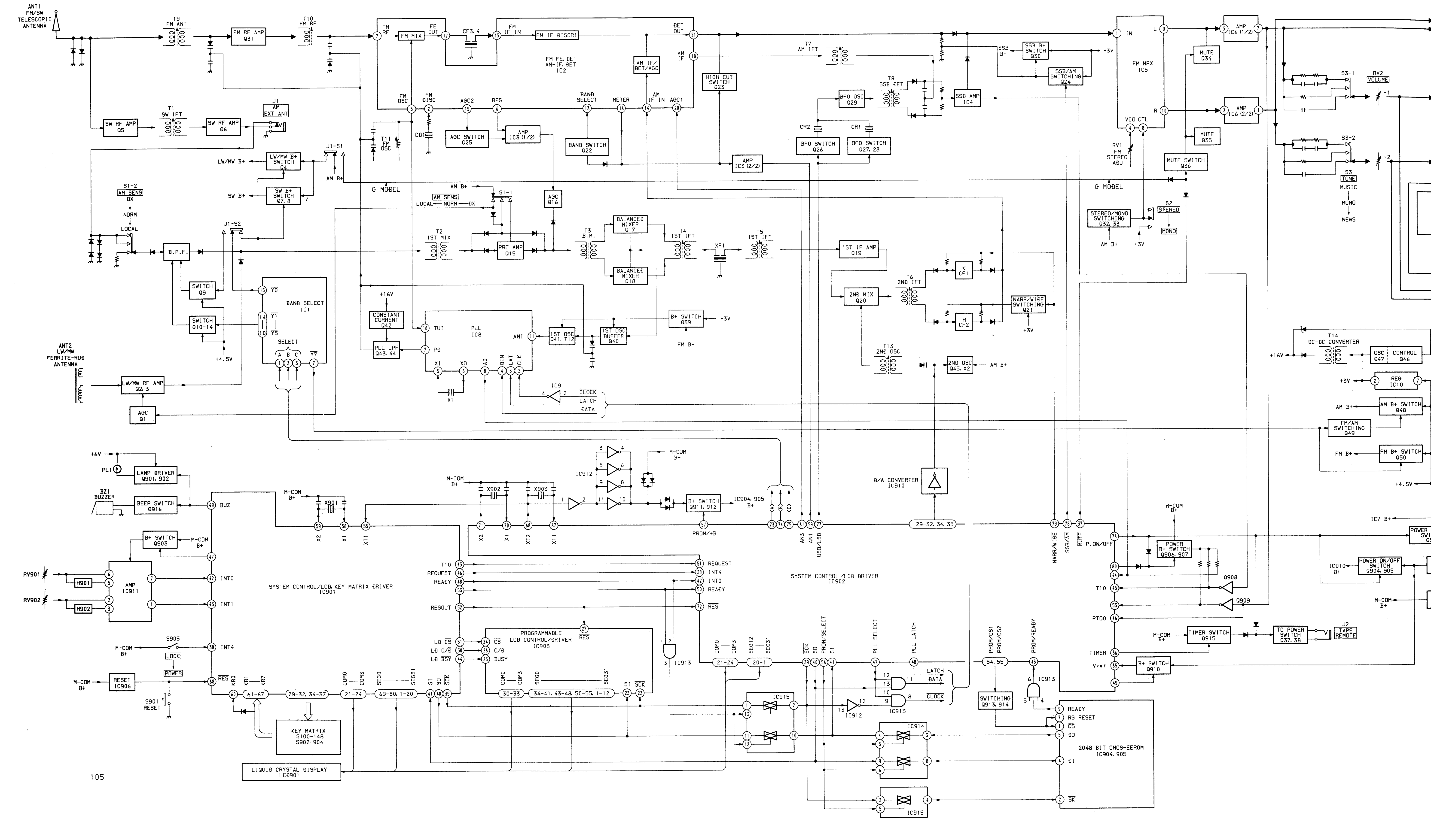


AM IF
T4
T5
FM RF
CT4
T9
CT3
T10
T13
2nd local
T11
FM VCO
CT2
BFO (LSB)
CT1
BFO (USB)
CT6
PLL
RV1
FM STEREO

SECTION 5
DIAGRAMS

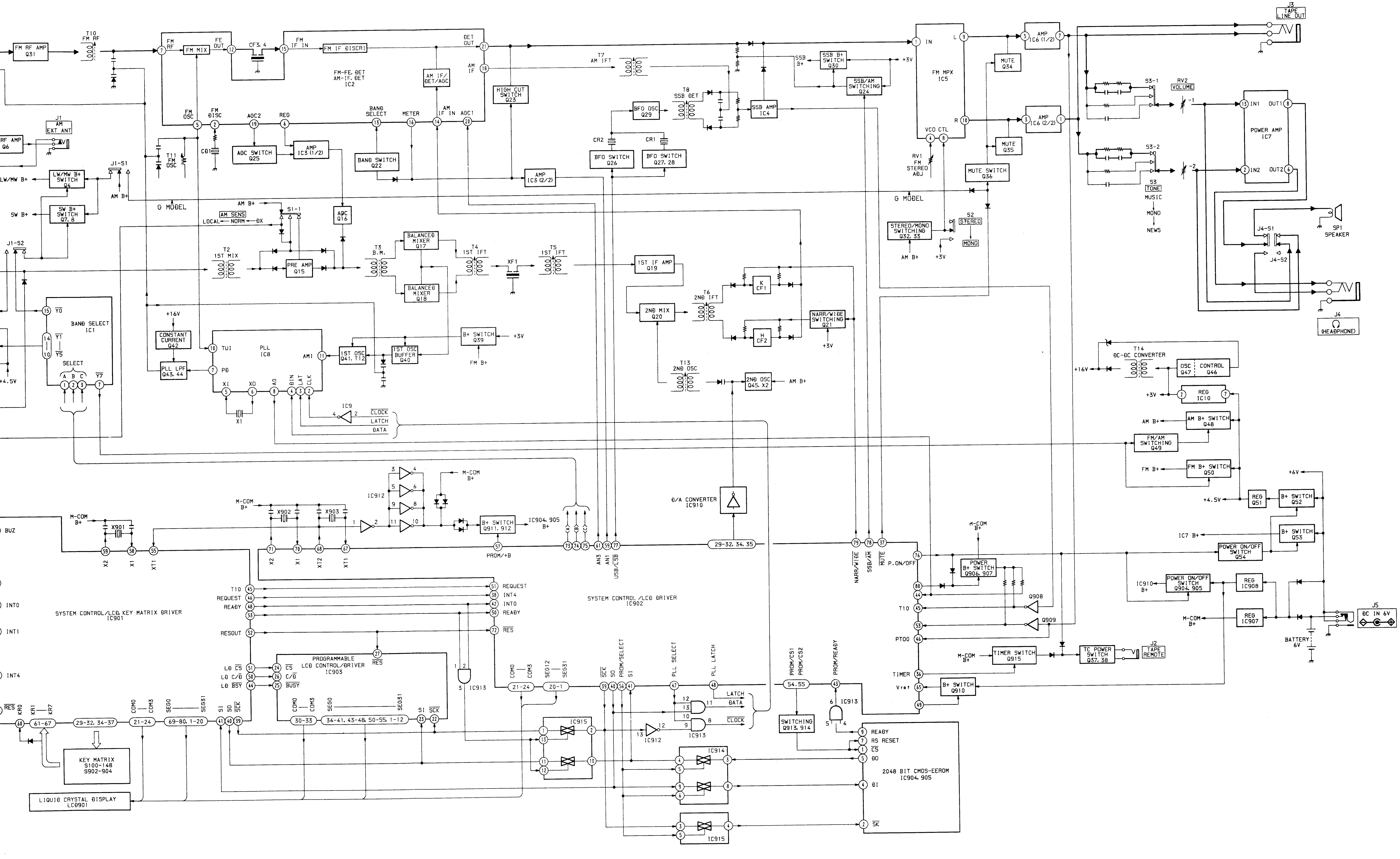
5-1. BLOCK DIAGRAM

G:Germany


ANT1 FM/SW TELESCOPIC ANTENNA
T9 FM ANT
FM RF AMP Q31
T10 FM RF
FM RF
FM MIX
FE OUT
CF3, 4
FM IF IN
FM IF DISCRI
DET OUT
AM IF
FM-FE, DET AM-IF, DET IC2
AM IF/ DET/AGC
FM OSC
FM DISC
AGC2
REG
BAND SELECT
METER
AM IF IN
AGC1
T11 FM OSC
CD1
AGC SWITCH Q25
AMP IC3 (1/2)
BAND SWITCH Q22
HIGH CUT SWITCH Q23
AMP IC3 (2/2)
T7 AM IFT
T8 SSB DET
BFO OSC Q29
CR2
CR1
BFO SWITCH Q26
BFO SWITCH Q27, 28
SSB B+
SSB B+ SWITCH Q30
+3V
SSB/AM SWITCHING Q24
SSB AMP IC4
FM MPX IC5
IN
L
R
VCO CTL
RV1 FM STEREO ADJ
AMP IC6 (1/2)
AMP IC6 (2/2)
MUTE Q34
MUTE Q35
MUTE SWITCH Q36
G MODEL
STEREO/MONO SWITCHING Q32, 33
AM B+
S2 STEREO MONO
S3-1
S3-2
RV2 VOLUME
S3 TONE
MUSIC
MONO
NEWS
SW RF AMP Q5
T1 SW IFT
SW RF AMP Q6
J1 AM EXT ANT
LW/MW B+
LW/MW B+ SWITCH Q4
SW B+
SW B+ SWITCH Q7, 8
J1-S1
AM B+
G MODEL
S1-2 AM SENS
DX
NORM
LOCAL
J1-S2
B.P.F.
SWITCH Q9
SWITCH Q10-14
+4.5V
BAND SELECT IC1
SELECT
A B C
AM SENS
LOCAL — NORM — DX
S1-1
T2 1ST MIX
PRE AMP Q15
AGC Q16
T3 B.M.
BALANCED MIXER Q17
BALANCED MIXER Q18
T4 1ST IFT
XF1
T5 1ST IFT
1ST IF AMP Q19
T6 2ND IFT
2ND MIX Q20
K CF1
H CF2
NARR/WIDE SWITCHING Q21
+3V
+16V
CONSTANT CURRENT Q42
PLL LPF Q43, 44
TUI
PD
PLL IC8
AM1
X1
XO
AO
DIN
LAT
CLK
1ST OSC Q41, T12
1ST OSC BUFFER Q40
B+ SWITCH Q39
FM B+
T13 2ND OSC
2ND OSC Q45, X2
IC9
CLOCK
LATCH
DATA
ANT2 LW/MW FERRITE-ROD ANTENNA
LW/MW RF AMP Q2, 3
AGC Q1
T14 DC-DC CONVERTER
OSC Q47
CONTROL Q46
REG IC10
AM B+ SWITCH Q48
FM/AM SWITCHING Q49
FM B+ SWITCH Q50
+4.5V
IC7 B+
+6V
PL1
LAMP DRIVER Q901, 902
BZ1 BUZZER
BEEP SWITCH Q916
BUZ
M-COM B+
B+ SWITCH Q903
RV901
RV902
H901
H902
AMP IC911
INT0
INT1
S905
LOCK
POWER
INT4
RESET IC906
S901 RESET
RES
KR0
KR1
KR7
KEY MATRIX S100-148 S902-904
LIQUID CRYSTAL DISPLAY LCD901
SYSTEM CONTROL/LCD, KEY MATRIX DRIVER IC901
X902
X903
X901
IC912
B+ SWITCH Q911, 912
IC904, 905 B+
PROM/+B
D/A CONVERTER IC910
29-32, 34, 35
AN3
AN1
USB/LSB
NARR/WIDE
SSB/AM
MUTE
P.ON/OFF
T10
REQUEST
READY
RESOUT
REQUEST
INT4
INT0
READY
RES
SYSTEM CONTROL/LCD DRIVER IC902
PROGRAMMABLE LCD CONTROL/DRIVER IC903
LD CS
LD C/D
LD BSY
CS
C/D
BUSY
COM0
COM3
SEG0
SEG31
SI
SO
SCK
61-67
29-32, 34-37
21-24
69-80, 1-20
30-33
34-41, 43-48, 50-55, 1-12
IC913
SEG12
20-1
PROM/SELECT
PLL SELECT
PLL LATCH
LATCH
DATA
CLOCK
IC915
IC914
PROM/CS1
PROM/CS2
PROM/READY
54, 55
SWITCHING Q913, 914
2048 BIT CMOS-EEROM IC904, 905
READY
RS RESET
CS
DO
DI
SK
POWER B+ SWITCH Q906, 907
Q908
Q909
PTOO
TIMER
Vref
M-COM B+
TIMER SWITCH Q915
TC POWER SWITCH Q37, 38
J2 TAPE REMOTE
B+ SWITCH Q910
IC910 B+
POWER ON/OFF SWITCH Q904, 905
M-COM B+

SECTION 5
DIAGRAMS

ny


FM RF AMP Q31
T10 FM RF
FM RF
FM MIX
FE OUT
CF3, 4
FM IF IN
FM IF DISCRI
DET OUT
FM-FE, DET AM-IF, DET IC2
AM IF/DET/AGC
AM IF
FM OSC
FM DISC
AGC2
REG
BAND SELECT
METER
AM IF IN
AGC1
HIGH CUT SWITCH Q23
T7 AM IFT
T8 SSB DET
BFO OSC Q29
SSB B+ SWITCH Q30
SSB/AM SWITCHING Q24
SSB AMP IC4
+3V
FM MPX IC5
IN
L
R
VCO CTL
RV1 FM STEREO ADJ
AMP IC6 (1/2)
AMP IC6 (2/2)
MUTE Q34
MUTE Q35
MUTE SWITCH Q36
J3 TAPE LINE OUT
S3-1
RV2 VOLUME
S3-2
S3 TONE
MUSIC
MONO
NEWS
POWER AMP IC7
IN1
OUT1
IN2
OUT2
SP1 SPEAKER
J4-S1
J4-S2
J4 (HEADPHONE)
J1 AM EXT ANT
RF AMP Q6
LW/MW B+ SWITCH Q4
LW/MW B+
J1-S1
AM B+
SW B+ SWITCH Q7, 8
SW B+
J1-S2
T11 FM OSC
CD1
AGC SWITCH Q25
AMP IC3 (1/2)
BAND SWITCH Q22
AMP IC3 (2/2)
CR2
CR1
BFO SWITCH Q26
BFO SWITCH Q27, 28
G MODEL
AM SENS
LOCAL
NORM
DX
S1-1
AGC Q16
T2 1ST MIX
PRE AMP Q15
T3 B.M.
BALANCED MIXER Q17
BALANCED MIXER Q18
T4 1ST IFT
XF1
T5 1ST IFT
1ST IF AMP Q19
T6 2ND IFT
K CF1
N CF2
2ND MIX Q20
NARR/WIDE SWITCHING Q21
STEREO/MONO SWITCHING Q32, 33
S2 STEREO
MONO
BAND SELECT IC1
SELECT
+4.5V
+16V
CONSTANT CURRENT Q42
PLL LPF Q43, 44
PLL IC8
TUI
PD
AMI
XI
XO
AO
DIN
LAT
CLK
X1
1ST OSC Q41, T12
1ST OSC BUFFER Q40
B+ SWITCH Q39
FM B+
IC9
CLOCK
LATCH
DATA
T13 2ND OSC
2ND OSC Q45, X2
T14 DC-DC CONVERTER
OSC Q47
CONTROL Q46
REG IC10
AM B+ SWITCH Q48
FM/AM SWITCHING Q49
FM B+ SWITCH Q50
+6V
REG Q51
B+ SWITCH Q52
IC7 B+
B+ SWITCH Q53
POWER ON/OFF SWITCH Q54
POWER ON/OFF SWITCH Q904, 905
IC910 B+
REG IC908
REG IC907
M-COM B+
J5 DC IN 6V
BATTERY 6V
IC912
M-COM B+
X901
X902
X903
BUZ
B+ SWITCH Q911, 912
IC904, 905 B+
PROM/+B
D/A CONVERTER IC910
29-32, 34, 35
AN3
AN1
USB/LSB
NARR/WIDE
SSB/AM
MUTE
P.ON/OFF
POWER B+ SWITCH Q906, 907
Q908
Q909
T10
PTOO
TIMER
Vref
TIMER SWITCH Q915
TC POWER SWITCH Q37, 38
J2 TAPE REMOTE
B+ SWITCH Q910
SYSTEM CONTROL/LCD, KEY MATRIX DRIVER IC901
SYSTEM CONTROL /LCD DRIVER IC902
INTO
INT1
INT4
RES
REQUEST
READY
RESOUT
LD CS
LD C/D
LD BSY
PROGRAMMABLE LCD CONTROL/DRIVER IC903
IC913
COM0
COM3
SEG0
SEG31
SEG12
SCK
SO
SI
PROM/SELECT
PLL SELECT
PLL LATCH
PROM/CS1
PROM/CS2
PROM/READY
SWITCHING Q913, 914
READY
RS RESET
CS
DO
DI
SK
2048 BIT CMOS-EEROM IC904, 905
IC915
IC914
KR0
KR1
KR7
61-67
29-32, 34-37
21-24
69-80, 1-20
30-33
34-41, 43-48, 50-55, 1-12
20-1
54, 55
KEY MATRIX S100-148 S902-904
LIQUID CRYSTAL DISPLAY LCD901

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D1	C – 26	IC9	G – 11
D2	C – 26	IC10	F – 26
D3	C – 29		
D4	C – 29		
D5	C – 22	Q1	B – 26
		Q2	C – 25
D6	D – 30	Q3	C – 23
D7	C – 30	Q4	C – 7
D8	C – 2	Q5	D – 29
D9	C – 30		
D10	C – 2	Q6	E – 28
		Q7	E – 3
D11	B – 4	Q8	E – 3
D12	B – 6	Q9	B – 6
D13	C – 4	Q10	C – 6
D14	B – 6		
D15	C – 4	Q11	C – 6
		Q12	C – 6
D16	C – 6	Q13	D – 6
D17	C – 4	Q14	D – 6
D18	C – 6	Q15	C – 11
D19	C – 4		
D20	C – 6	Q16	C – 21
		D17	B – 20
D21	D – 4	Q18	C – 20
D22	D – 6	Q19	B – 18
D23	B – 20	Q20	C – 17
D24	B – 21		
D25	B – 20	Q21	D – 17
		Q22	C – 13
D26	B – 20	Q23	E – 18
D27	C – 20	Q24	G – 18
D28	C – 20	Q25	E – 21
D29	D – 18		
D30	C – 18	Q26	G – 18
		Q27	G – 18
D31	D – 13	Q28	F – 18
D32	G – 17	Q29	F – 18
D33	E – 18	Q30	G – 14
D34	F – 18		
D35	C – 21	Q31	D – 20
		Q32	C – 15
D36	D – 21	Q33	C – 15
D37	D – 20	D34	I – 16
D38	D – 20	Q35	I – 15
D39	F – 20		
D40	G – 19	Q36	H – 14
		Q37	E – 30
D41	D – 17	Q38	E – 30
D42	I – 29	Q39	E – 21
D43	I – 3	Q40	F – 21
D44	G – 6		
D45	H – 29	Q41	F – 20
		Q42	G – 19
D46	H – 29	Q43	F – 18
D47	B – 3	Q44	G – 18
D48	I – 14	Q45	E – 18
		Q46	I – 29
IC1	E – 6	Q47	I – 29
IC2	D – 19	Q48	C – 7
IC3	E – 21	Q49	C – 7
IC4	G – 18	Q50	D – 7
IC5	H – 17		
		Q51	F – 6
IC6	G – 17	Q52	G – 28
IC7	F – 4	Q53	H – 29
IC8	F – 19	Q54	G – 28

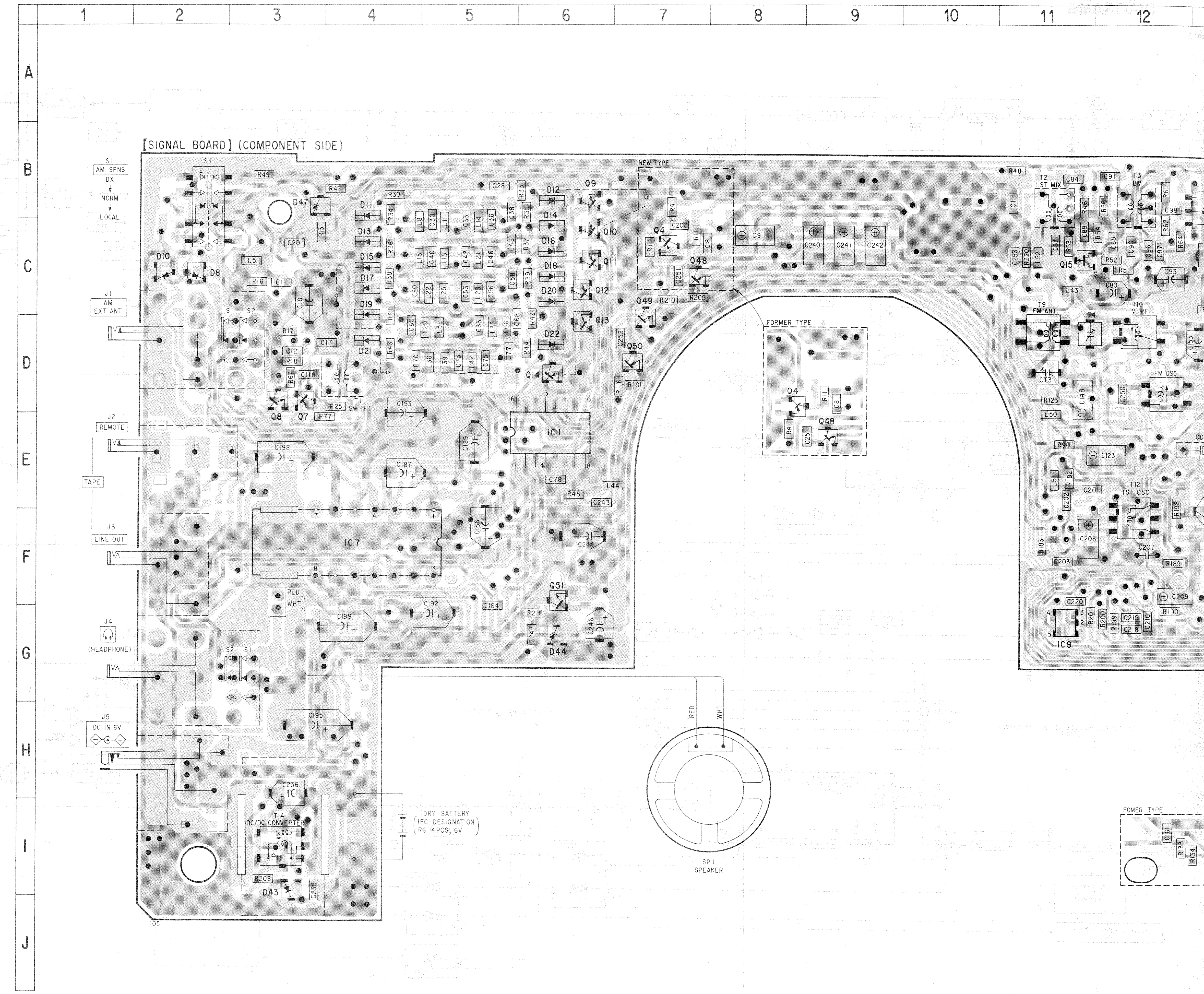
Note :

- ——: parts extracted from the conductor side.
- ⁝⇤ indicates side identified with part number.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

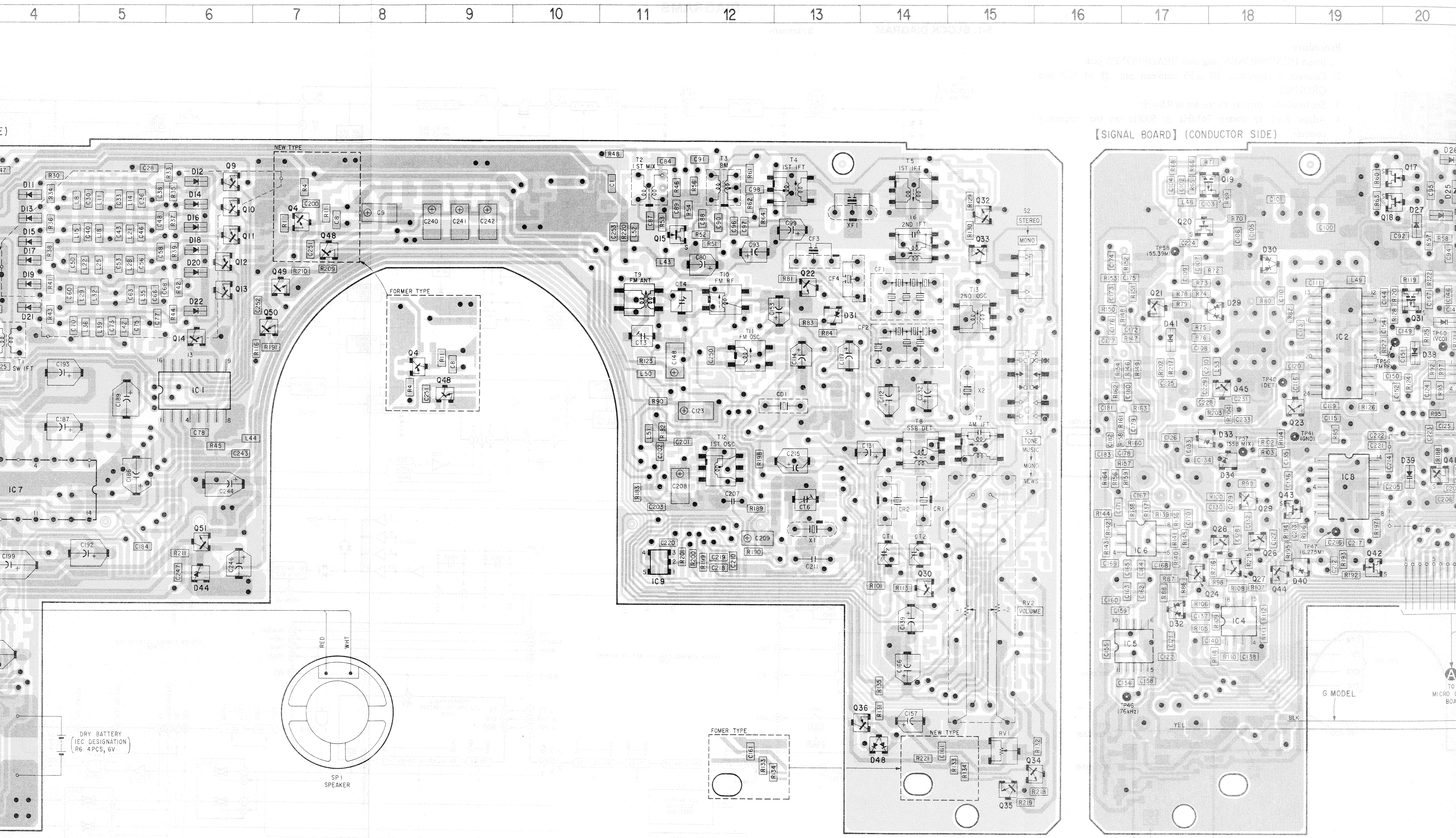
G :Germany

5-2. PRINTED WIRING BOARD – SIGNAL SECTION –

•Refer to Page 38 for Semiconductor Lead Layout

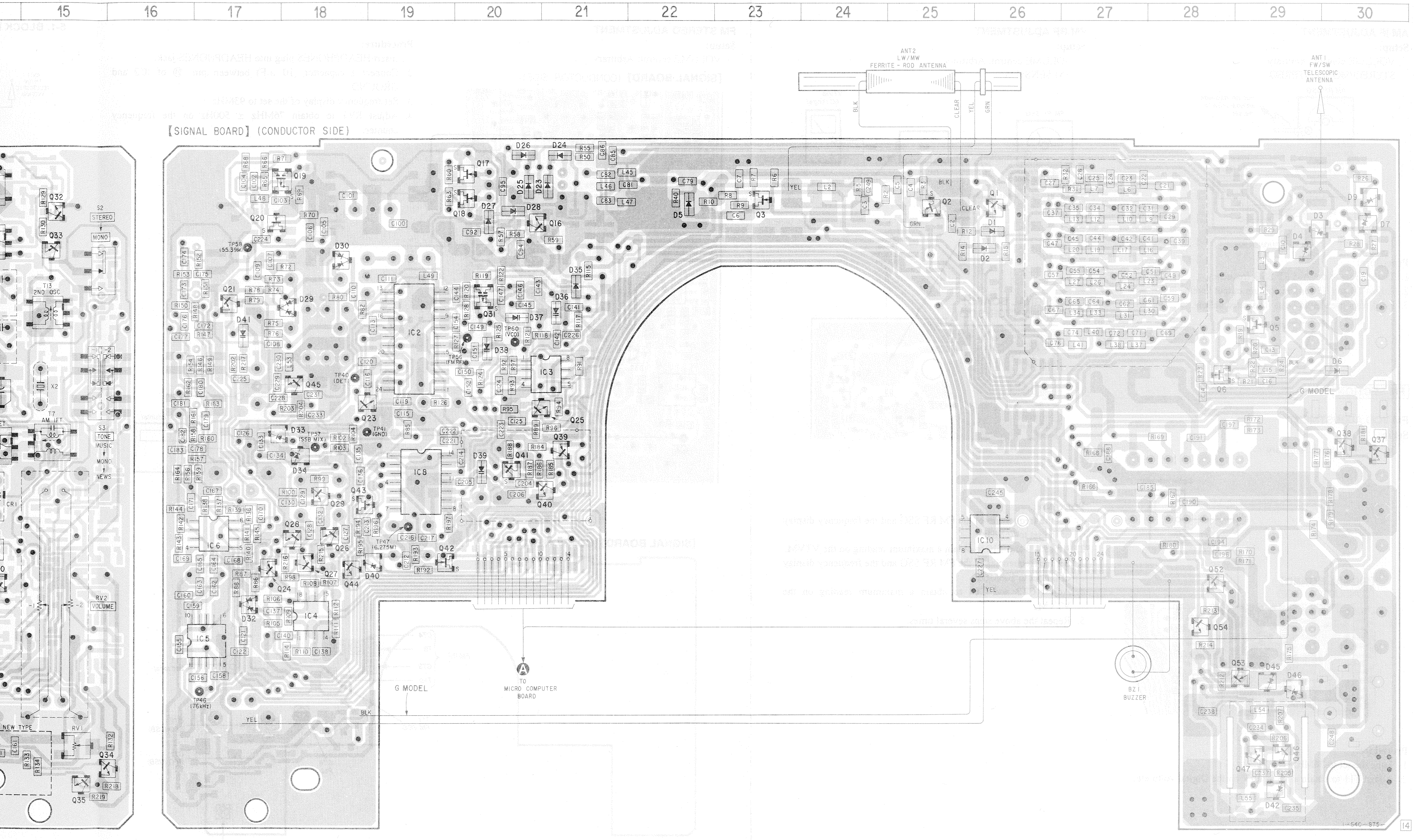

1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
【SIGNAL BOARD】(COMPONENT SIDE)
S1
AM SENS
DX
NORM
LOCAL
J1
AM
EXT ANT
J2
REMOTE
TAPE
J3
LINE OUT
J4
(HEADPHONE)
J5
DC IN 6V
NEW TYPE
FORMER TYPE
FOMER TYPE
IC1
IC7
IC9
D10
D8
D47
D11
D12
D13
D14
D15
D16
D17
D18
D19
D20
D21
D22
D43
D44
Q4
Q7
Q8
Q9
Q10
Q11
Q12
Q13
Q14
Q15
Q48
Q49
Q50
Q51
T2
1ST MIX
T3
BM
T9
FM ANT
T10
FM RF
T11
FM OSC
T12
1ST OSC
T14
DC/DC CONVERTER
RED
WHT
SW IFT
DRY BATTERY
(IEC DESIGNATION
R6 4PCS, 6V)
SP1
SPEAKER
105

•Refer to Page 38 for Semiconductor Lead Layout


【SIGNAL BOARD】(CONDUCTOR SIDE)

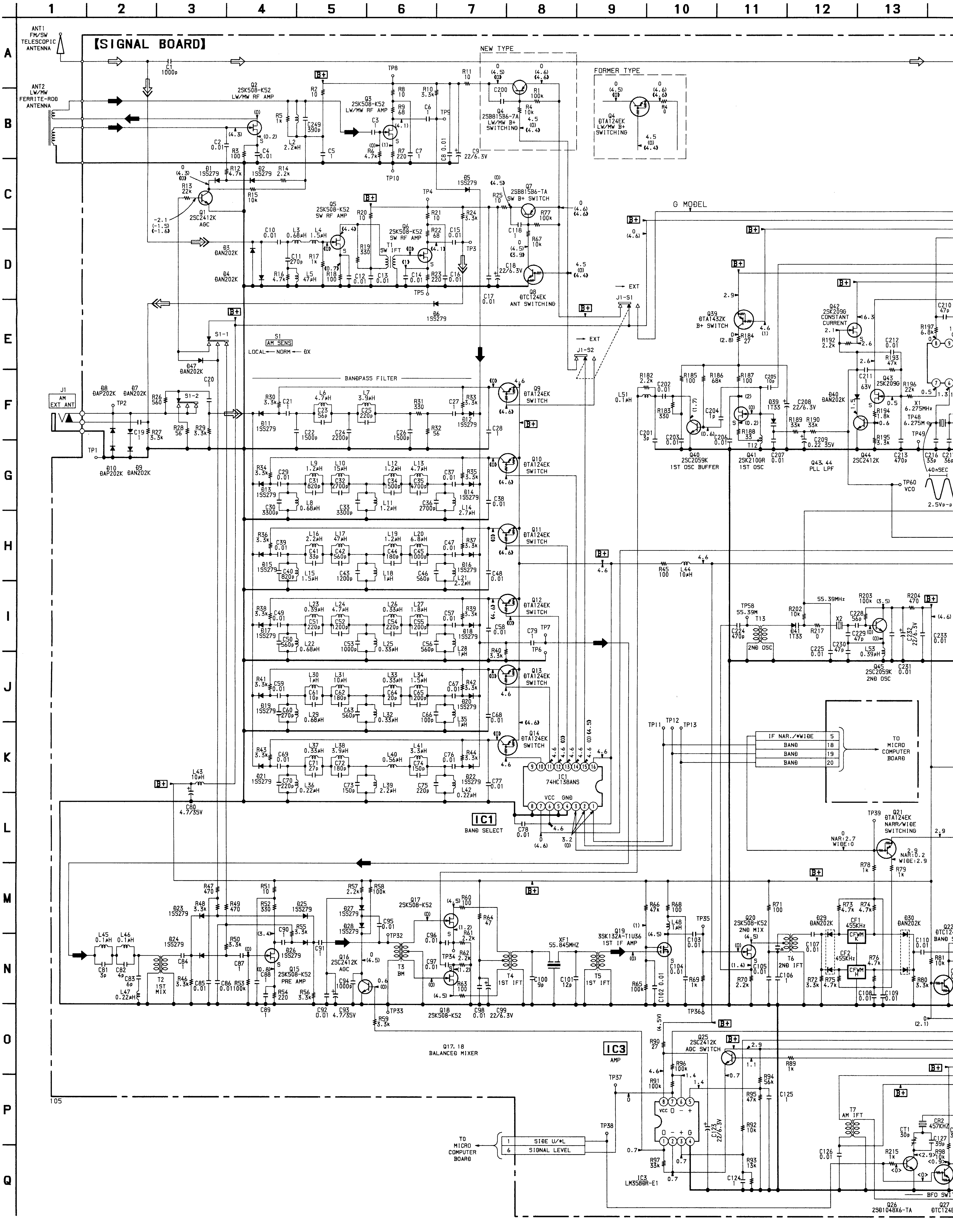
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
NEW TYPE
FORMER TYPE
FOMER TYPE
IC1
IC7
IC9
IC2
IC4
IC5
IC6
IC8
T2 1ST MIX
T3 BM
T4 1ST IFT
T5 1ST IFT
T6 2ND IFT
T7 AM IFT
T8 SSB DET
T9 FM ANT
T10 FM RF
T11 FM OSC
T12 1ST OSC
T13 2ND OSC
S2 STEREO MONO
S3 TONE MUSIC MONO NEWS
RV1
RV2 VOLUME
XF1
X1
X2
CF1
CF2
CF3
CF4
CD1
CR1
CR2
SW IFT
RED
WHT
SP1 SPEAKER
DRY BATTERY (IEC DESIGNATION R6 4PCS, 6V)
TP58 (55.39M)
TP56 (FM RF)
TP60 (VCO)
TP40 (DET)
TP41 (GND)
TP57 (SSB MIX)
TP47 (16.275M)
TP46 (76kHz)
G MODEL
TO MICRO BOARD
YEL
BLK

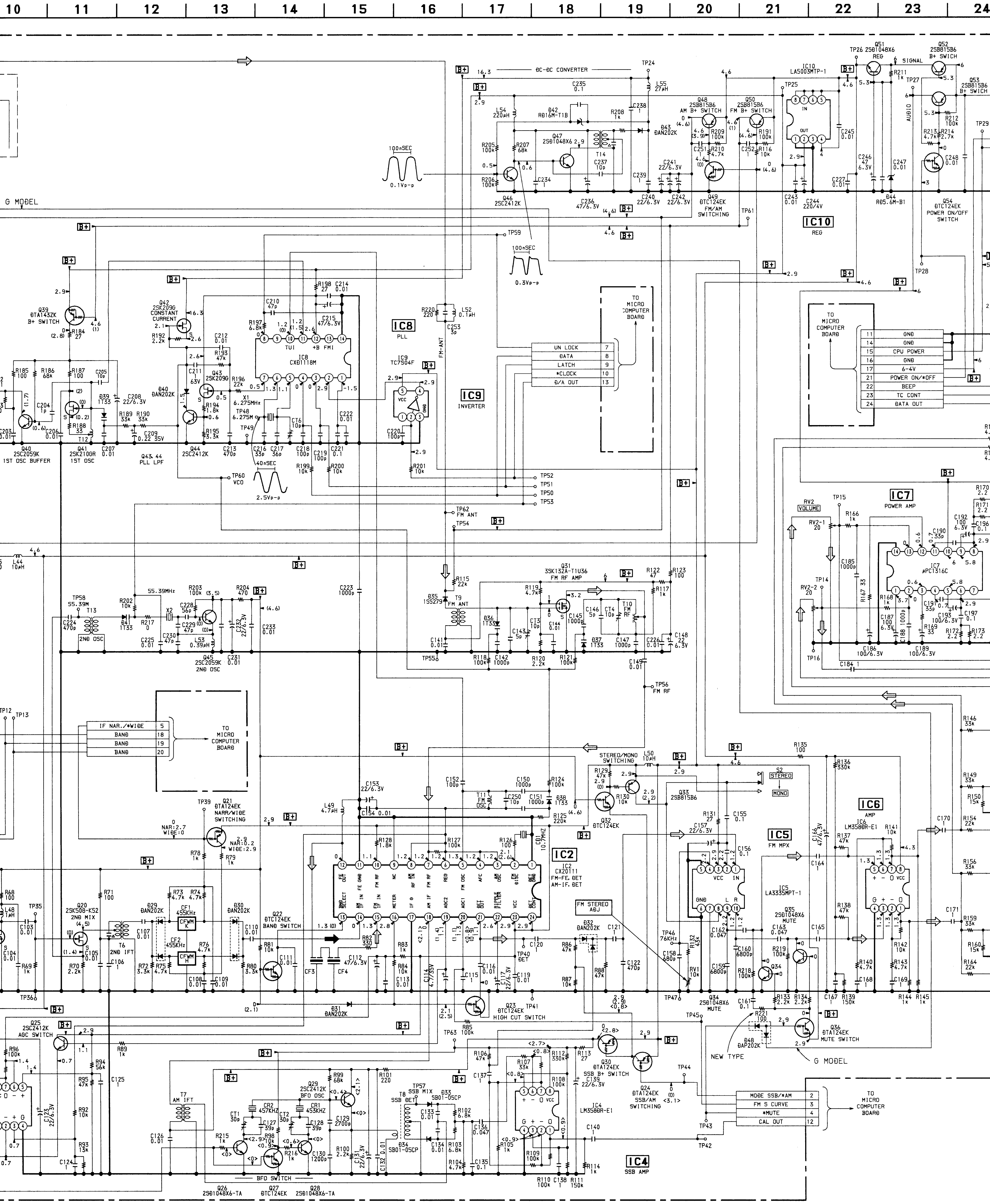
[SIGNAL BOARD] (CONDUCTOR SIDE)

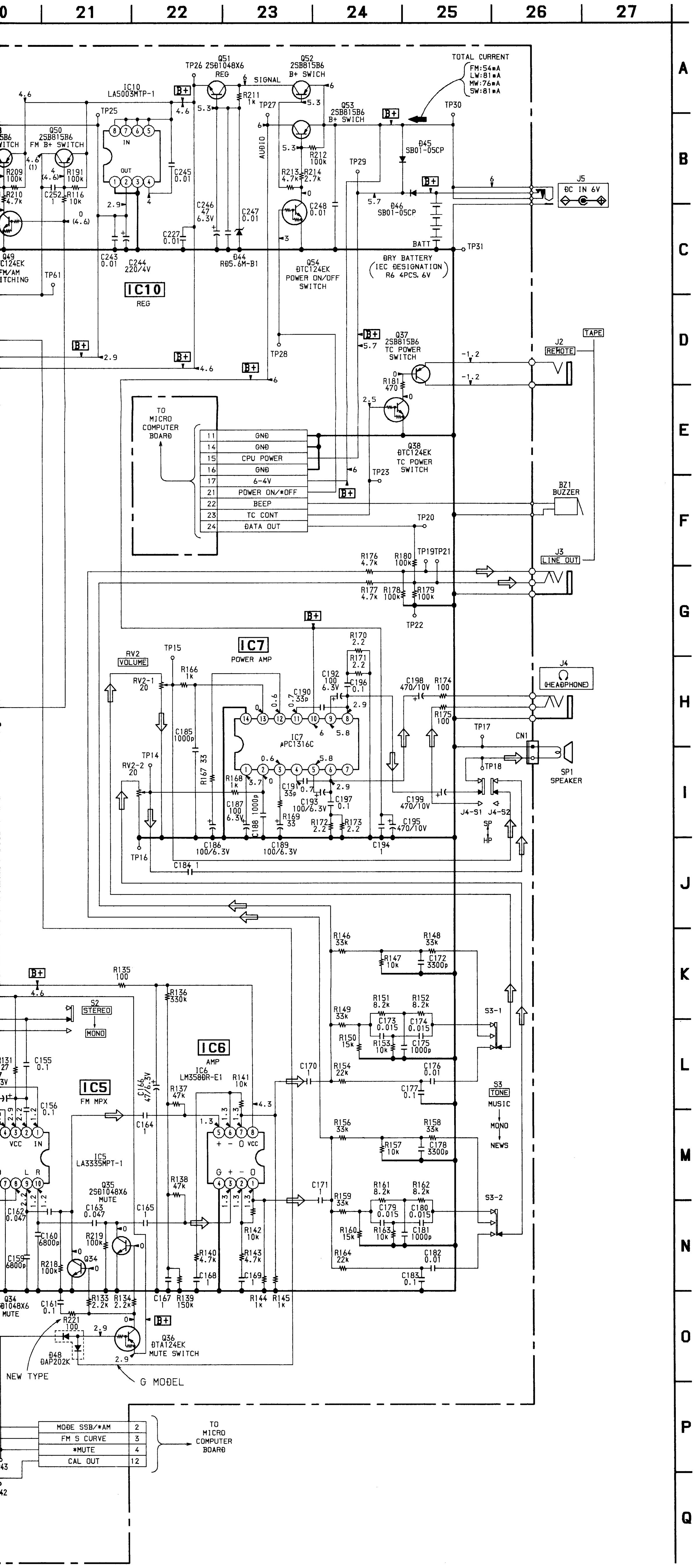

15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
ANT2
LW/MW
FERRITE - ROD ANTENNA
BLK
CLEAR
YEL
GRN
ANT1
FM/SW
TELESCOPIC
ANTENNA
S2
STEREO
MONO
T13
2ND OSC
X2
T7
AM IFT
S3
TONE
MUSIC
MONO
NEWS
RV2
VOLUME
RV1
NEW TYPE
CR1
IC2
IC3
IC4
IC5
IC6
IC8
IC10
TP58 (55.39M)
TP40 (DET)
TP41 (GND)
TP56 (FM RF)
TP60 (VCO)
TP57 (SSB MIX)
TP47 (6.275M)
TP46 (76kHz)
G MODEL
A
TO MICRO COMPUTER BOARD
BZ1
BUZZER
YEL
BLK
1-640-875-14

5-3. SCHEMATIC DIAGRAM S – SIGNAL SECTION –

•Refer to Page 47 for IC Block Diagrams.

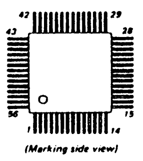

[SIGNAL BOARD]
ANT1 FM/SW TELESCOPIC ANTENNA
ANT2 LW/MW FERRITE-ROD ANTENNA
J1 AM EXT ANT
NEW TYPE
FORMER TYPE
Q2 2SK508-K52 LW/MW RF AMP
Q3 2SK508-K52 LW/MW RF AMP
Q4 2SB815B6-7A LW/MW B+ SWITCHING
Q4 DTA124EK LW/MW B+ SWITCHING
Q1 2SC2412K AGC
Q5 2SK508-K52 SW RF AMP
Q6 2SK508-K52 SW RF AMP
T1 SW IFT
Q7 2SB815B6-TA SW B+ SWITCH
Q8 DTC124EK ANT SWITCHING
S1 AM SENS LOCAL NORM DX
BANDPASS FILTER
Q9 DTA124EK SWITCH
Q10 DTA124EK SWITCH
Q11 DTA124EK SWITCH
Q12 DTA124EK SWITCH
Q13 DTA124EK SWITCH
Q14 DTA124EK SWITCH
IC1 74HC138ANS
IC1 BAND SELECT
G MODEL
Q39 DTA143ZK B+ SWITCH
Q40 2SC2059K 1ST OSC BUFFER
Q41 2SK210GR 1ST OSC
Q43, 44 PLL LPF
Q42 2SK209G CONSTANT CURRENT
Q43 2SK209G
Q44 2SC2412K
X1 6.275MHz
TP60 VCO
2.5Vp-p
40nSEC
T13 2ND OSC
Q45 2SC2059K 2ND OSC
55.39MHz
IF NAR./WIDE 5
BAND 18
BAND 19
BAND 20
TO MICRO COMPUTER BOARD
Q21 DTA124EK NARR/WIDE SWITCHING
NAR:2.7 WIDE:0
NAR:0.2 WIDE:2.9
T2 1ST MIX
Q15 2SK508-K52 PRE AMP
Q16 2SC2412K AGC
T3 BM
Q17 2SK508-K52
Q18 2SK508-K52
Q17, 18 BALANCED MIXER
T4 1ST IFT
XF1 55.845MHZ
T5 1ST IFT
Q19 3SK132A-T1U36 1ST IF AMP
Q20 2SK508-K52 2ND MIX
T6 2ND IFT
CF1 455KHz
CF2 455KHz
IC3 AMP
IC3 LM358BR-E1
Q25 2SC2412K AGC SWITCH
TO MICRO COMPUTER BOARD
1 SIDE U/L
6 SIGNAL LEVEL
T7 AM IFT
Q26 2SD1048X6-TA
Q27 DTC124E
BFO SW


10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
G MODEL
DC-DC CONVERTER
IC10 LA5003MTP-1 REG
Q51 2SD1048X6 REG
Q52 2SB815B6 B+ SWICH
Q53 2SB815B6 B+ SWICH
SIGNAL
AUDIO
Q48 2SB815B6 AM B+ SWITCH
Q50 2SB815B6 FM B+ SWITCH
Q49 DTC124EK FM/AM SWITCHING
D42 RB16M-T1B
D43 DAN202K
Q47 2SD1048X6
Q46 2SC2412K
D44 RD5.6M-B1
Q54 DTC124EK POWER ON/OFF SWITCH
100nSEC 0.1Vp-p
100nSEC 0.3Vp-p
40nSEC 2.5Vp-p
Q39 DTA143ZK B+ SWITCH
Q42 2SK209G CONSTANT CURRENT
Q43 2SK209G
D40 DAN202K
Q40 2SC2059K 1ST OSC BUFFER
Q41 2SK210GR 1ST OSC
Q43, 44 PLL LPF
Q44 2SC2412K
X1 6.275MHz
TP48 6.275M
IC8 CXD1118M PLL
IC9 TC7S04F INVERTER
FM-ANT
TO MICRO COMPUTER BOARD
UN LOCK 7
DATA 8
LATCH 9
*CLOCK 10
D/A OUT 13
TO MICRO COMPUTER BOARD
GND 11
GND 14
CPU POWER 15
GND 16
6-4V 17
POWER ON/*OFF 21
BEEP 22
TC CONT 23
DATA OUT 24
IC7 μPC1316C POWER AMP
RV2 VOLUME
TP60 VCO
TP52 TP51 TP50 TP53
TP62 FM ANT
TP54
Q31 3SK132A-T1U36 FM RF AMP
T9 FM ANT
D35 1SS279
D36 1T33
D37 1T33
T10 FM RF
TP56 FM RF
TP58 55.39M
T13 2ND OSC
D41 1T33
55.39MHz
Q45 2SC2059K 2ND OSC
IF NAR./*WIDE 5
BAND 18
BAND 19
BAND 20
TO MICRO COMPUTER BOARD
Q21 DTA124EK NARR/WIDE SWITCHING
NAR:2.7 WIDE:0
Q20 2SK508-K52 2ND MIX
T6 2ND IFT
CF1 455KHz CFWM K
CF2 455KHz CFWM H
D29 DAN202K
D30 DAN202K
Q22 DTC124EK BAND SWITCH
IC2 CX20111 FM-FE, DET AM-IF, DET
CD1 10.7MHz
T11 FM OSC
STEREO/MONO SWITCHING
Q32 DTC124EK
Q33 2SB815B6
S2 STEREO MONO
IC5 LA3335MPT-1 FM MPX
IC6 LM3580R-E1 AMP
FM STEREO ADJ
D32 DAN202K
TP46 76KHz
Q34 2SD1048X6 MUTE
Q35 2SD1048X6 MUTE
Q36 DTA124EK MUTE SWITCH
D48 DAP202K
NEW TYPE
G MODEL
Q23 DTC124EK HIGH CUT SWITCH
D31 DAN202K
Q25 2SC2412K AGC SWITCH
T7 AM IFT
CR2 457KHZ
CR1 453KHZ
Q29 2SC2412K BFO OSC
T8 SSB DET
TP57 SSB MIX
D33 SB01-05CP
D34 SB01-05CP
BFO SWITCH
Q26 2SD1048X6-TA
Q27 DTC124EK
Q28 2SD1048X6-TA
IC4 LM3580R-E1 SSB AMP
Q30 DTA124EK SSB B+ SWITCH
Q24 DTA124EK SSB/AM SWITCHING
MODE SSB/*AM 2
FM S CURVE 3
*MUTE 4
CAL OUT 12
TO MICRO COMPUTER BOARD

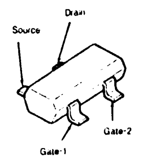

21
22
23
24
25
26
27
A
B
C
D
E
F
G
H
J
K
L
M
N
O
P
Q
Q51 2SD1048X6 REG
Q52 2SB815B6 B+ SWICH
Q53 2SB815B6 B+ SWICH
IC10 LA5003MTP-1
IC10 REG
TOTAL CURRENT FM:54mA LW:81mA MW:76mA SW:81mA
Q50 2SB815B6 FM B+ SWITCH
D45 SB01-05CP
D46 SB01-05CP
J5 DC IN 6V
D44 RD5.6M-B1
Q54 DTC124EK POWER ON/OFF SWITCH
BRY BATTERY (IEC DESIGNATION R6 4PCS, 6V)
Q37 2SB815B6 TC POWER SWITCH
J2 REMOTE
TAPE
Q38 DTC124EK TC POWER SWITCH
TO MICRO COMPUTER BOARD
11 GND
14 GND
15 CPU POWER
16 GND
17 6-4V
21 POWER ON/*OFF
22 BEEP
23 TC CONT
24 DATA OUT
BZ1 BUZZER
J3 LINE OUT
IC7 POWER AMP
IC7 µPC1316C
RV2 VOLUME
J4 HEADPHONE
CN1
SP1 SPEAKER
J4-S1 J4-S2 SP HP
S3-1
S3-2
S3 TONE MUSIC MONO NEWS
S2 STEREO MONO
IC6 AMP
IC6 LM3580R-E1
IC5 FM MPX
IC5 LA3335MPT-1
Q35 2SD1048X6 MUTE
Q34 2SD1048X6 MUTE
Q36 DTA124EK MUTE SWITCH
D48 DAP202K
NEW TYPE
G MODEL
MODE SSB/*AM 2
FM S CURVE 3
*MUTE 4
CAL OUT 12
TO MICRO COMPUTER BOARD

•Semiconductor lead Layout

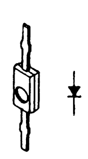
µ PD7225GB-3B7



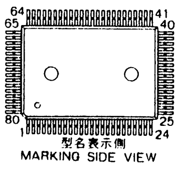
3SK-132A-U35


Drain
Source
Gate-2
Gate-1

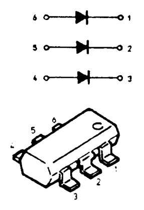
1SS279
1T-33



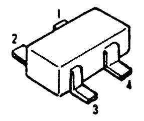
µ PD75316GF-181
µ PD75316GF-3B9


64
65
41
40
80
1
25
24
型名表示側
MARKING SIDE VIEW

1MN10

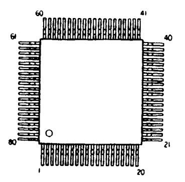


LT120

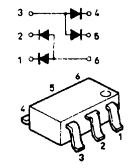


1. GND
2. Input
3. Vcc
4. Output

µ PD75328GC-522
µ PD75328GC-3B9



1MN11



Note :

- All capacitors are in µ F unless otherwise noted. pF : µ µ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- B + : B + Line
- ▭ : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is dc 6V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under detuned conditions.
- no mark : FM
  - ( ) : LW/MW
  - 《 》 : SW
  - ( ) : SSB
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ➡ : LW/MW
  - ⇨⇨ : SW

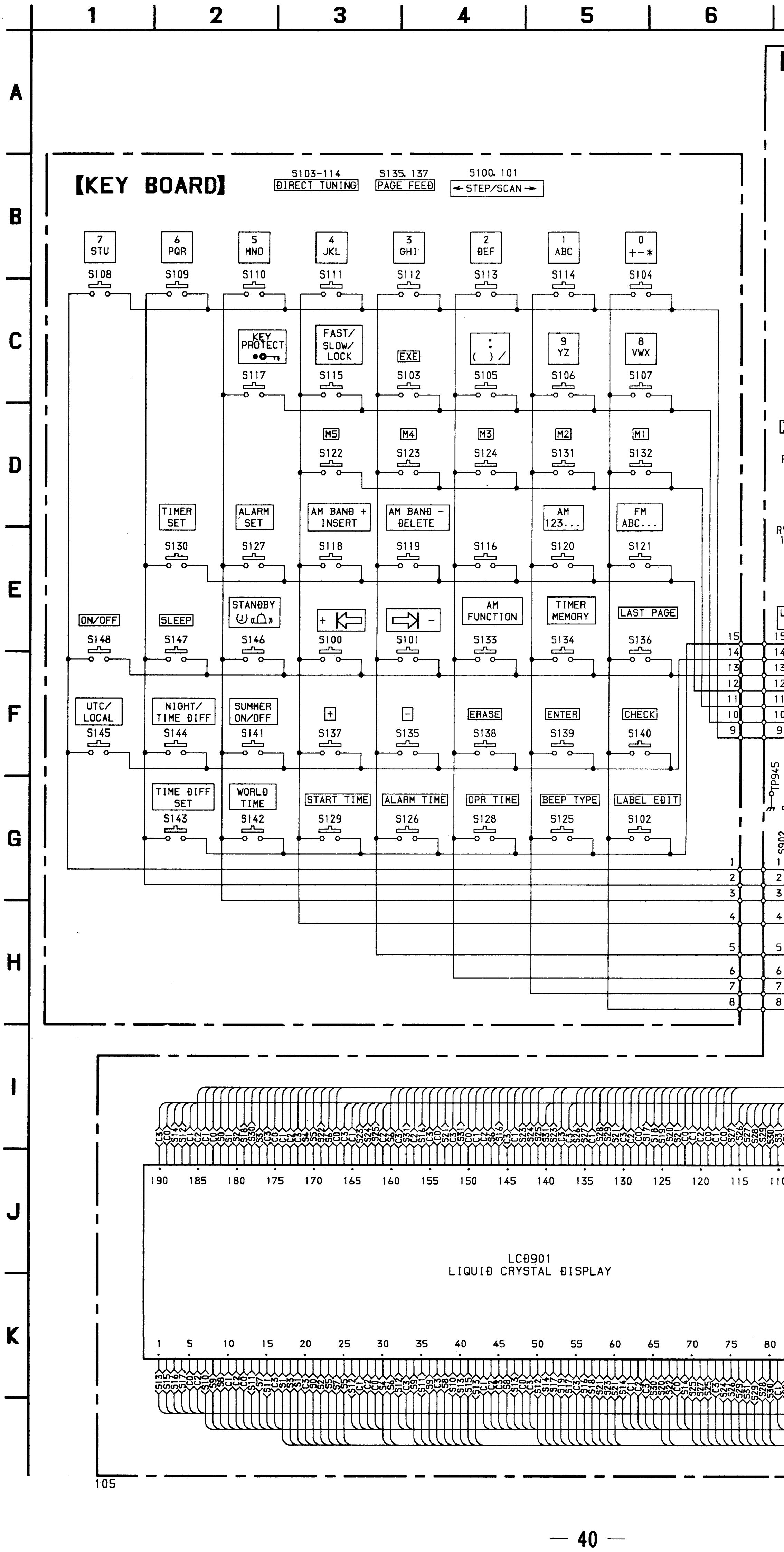
G :Germany

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- B+ : B+ Line
- Power voltage is dc 6V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under detuned conditions.
- no mark : FM
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.

CND :Canadian
IT :Italian
G :Germany
EA :Saudi Arabia

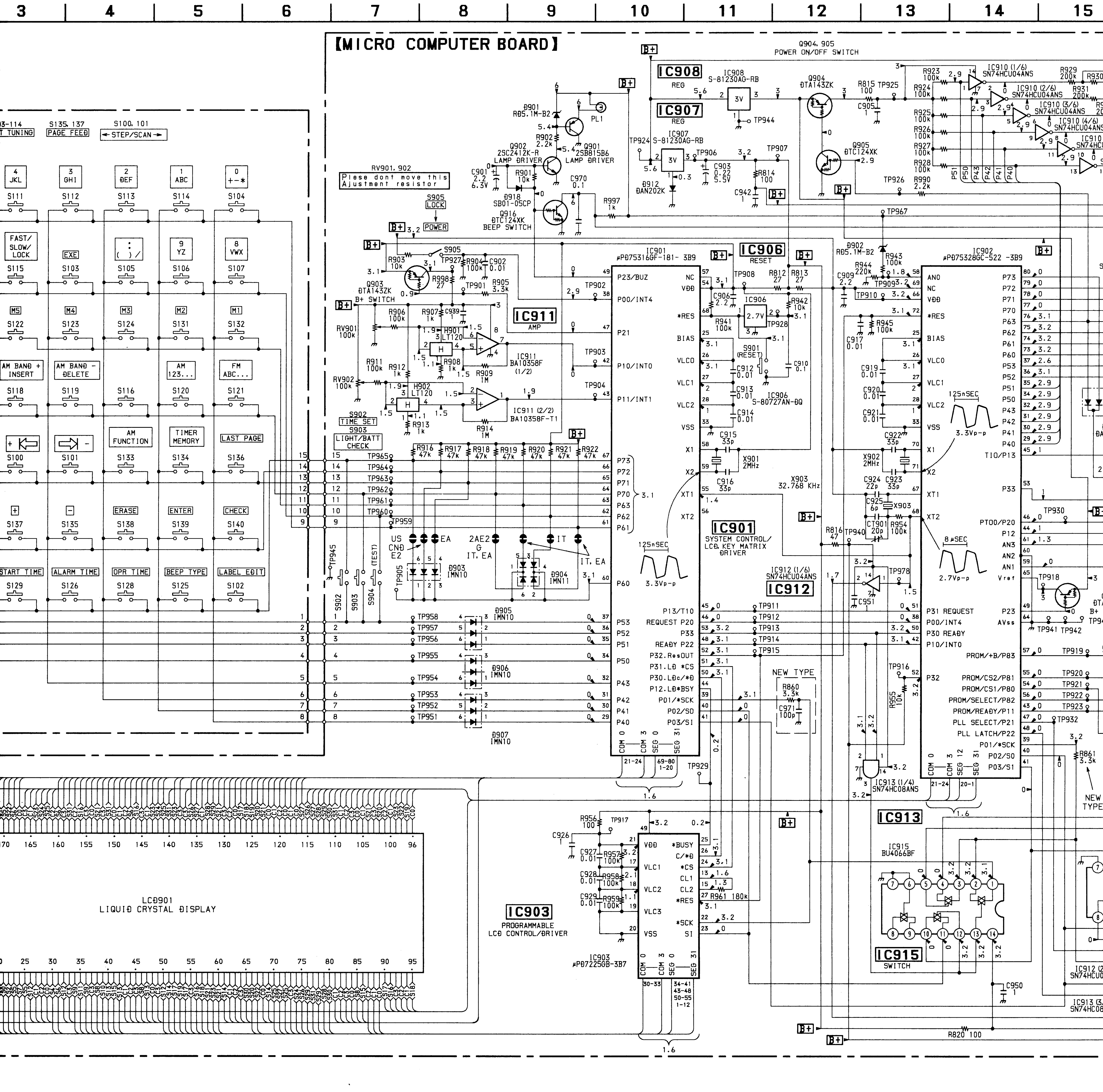
- 1AE2, 2AE2 : This shows the differences of the FM/SW frequency bands.

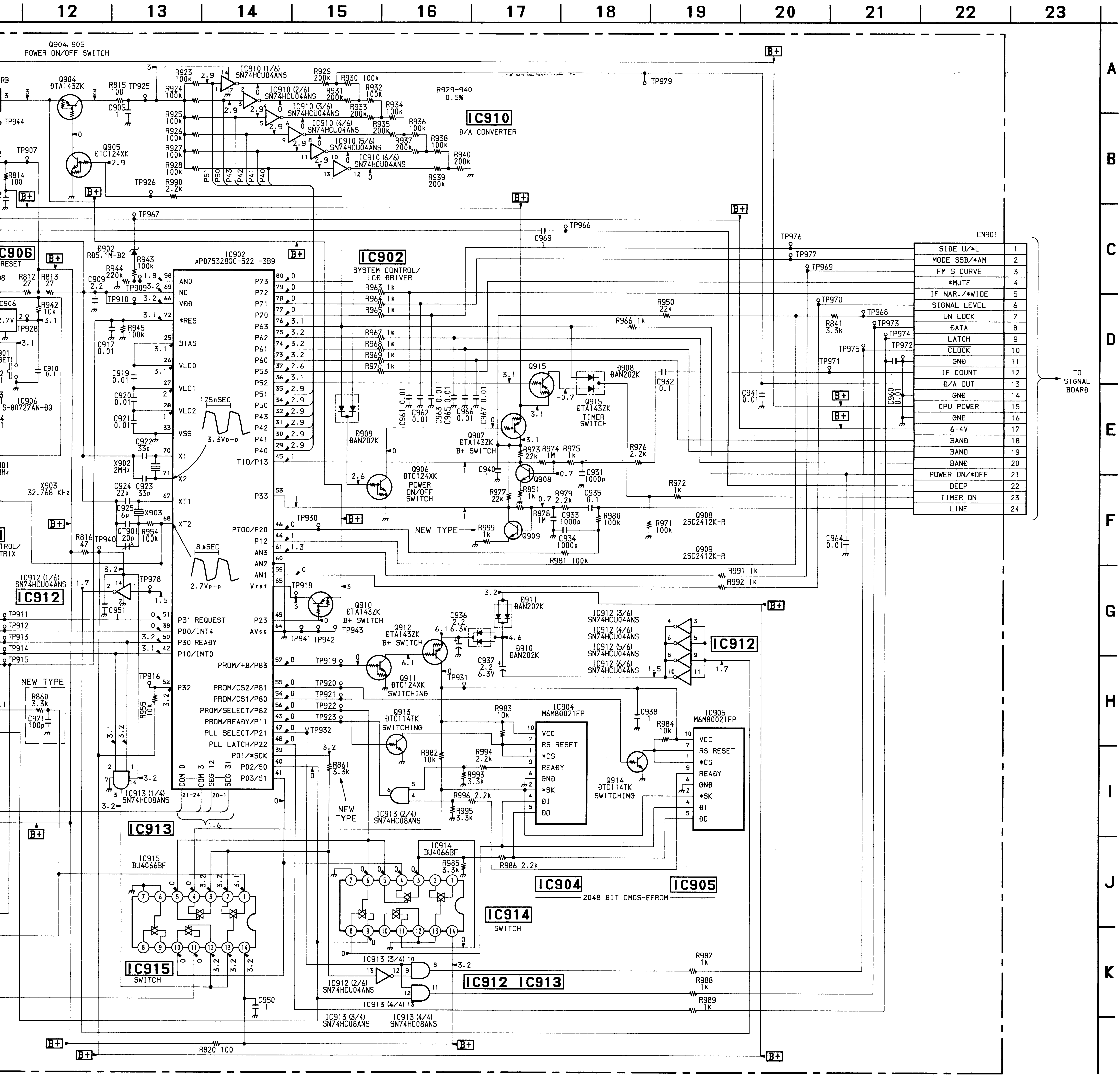
5-4. SCHEMATIC DIAGRAM S – MICRO COMPUTER – •Refer to Page 47 for IC Block Diagrams



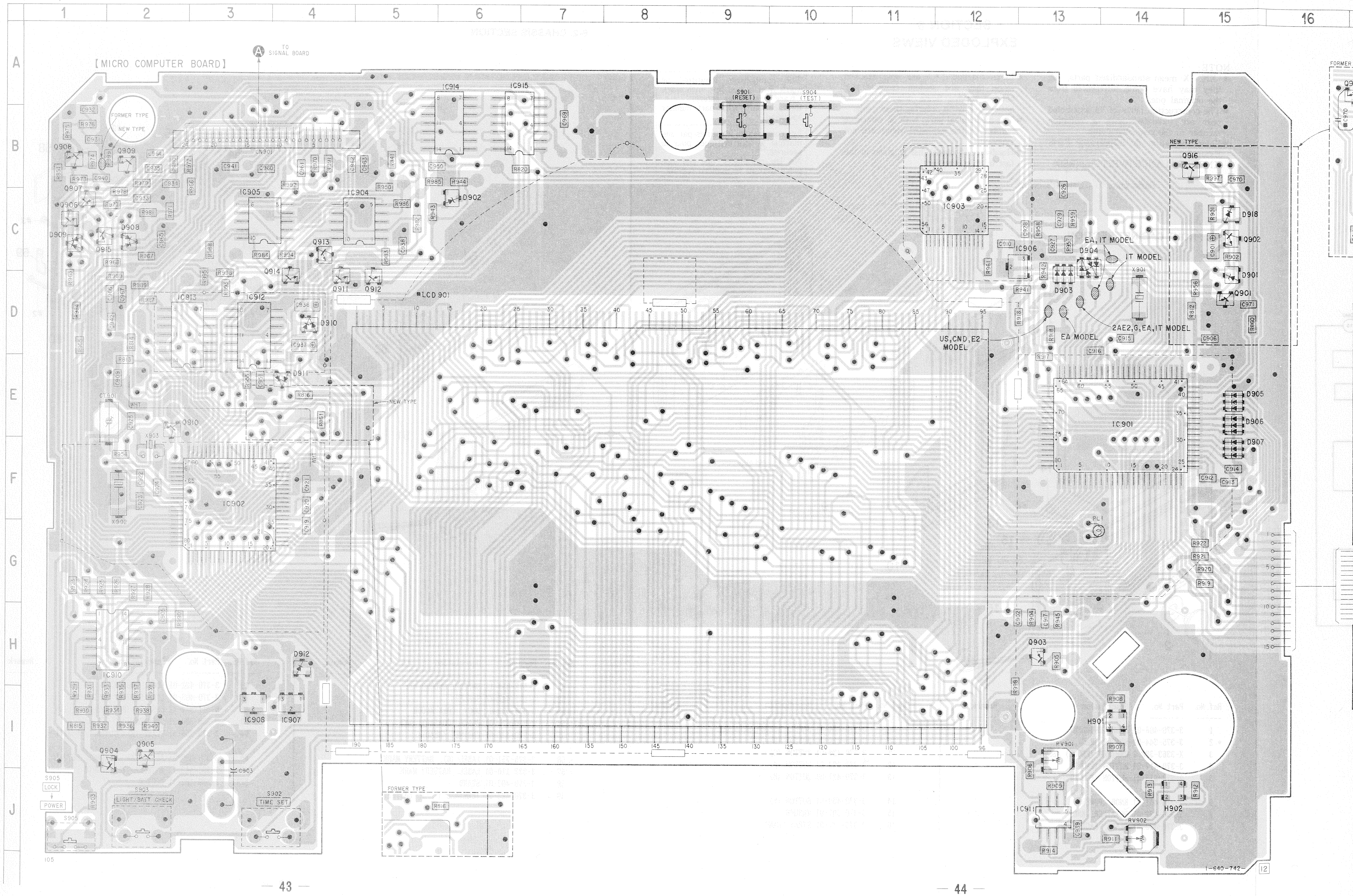
1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
[KEY BOARD]
S103-114 DIRECT TUNING
S135, 137 PAGE FEED
S100, 101 ◄ STEP/SCAN ►
7 STU S108
6 PQR S109
5 MNO S110
4 JKL S111
3 GHI S112
2 DEF S113
1 ABC S114
0 +-* S104
KEY PROTECT S117
FAST/ SLOW/ LOCK S115
EXE S103
: ( )/ S105
9 YZ S106
8 VWX S107
M5 S122
M4 S123
M3 S124
M2 S131
M1 S132
TIMER SET S130
ALARM SET S127
AM BAND + INSERT S118
AM BAND - DELETE S119
S116
AM 123... S120
FM ABC... S121
ON/OFF S148
SLEEP S147
STANDBY S146
S100
S101
AM FUNCTION S133
TIMER MEMORY S134
LAST PAGE S136
UTC/ LOCAL S145
NIGHT/ TIME DIFF S144
SUMMER ON/OFF S141
S137
S135
ERASE S138
ENTER S139
CHECK S140
TIME DIFF SET S143
WORLD TIME S142
START TIME S129
ALARM TIME S126
OPR TIME S128
BEEP TYPE S125
LABEL EDIT S102
TP945
LCD901 LIQUID CRYSTAL DISPLAY
105

D COMPUTER – •Refer to Page 47 for IC Block Diagrams.

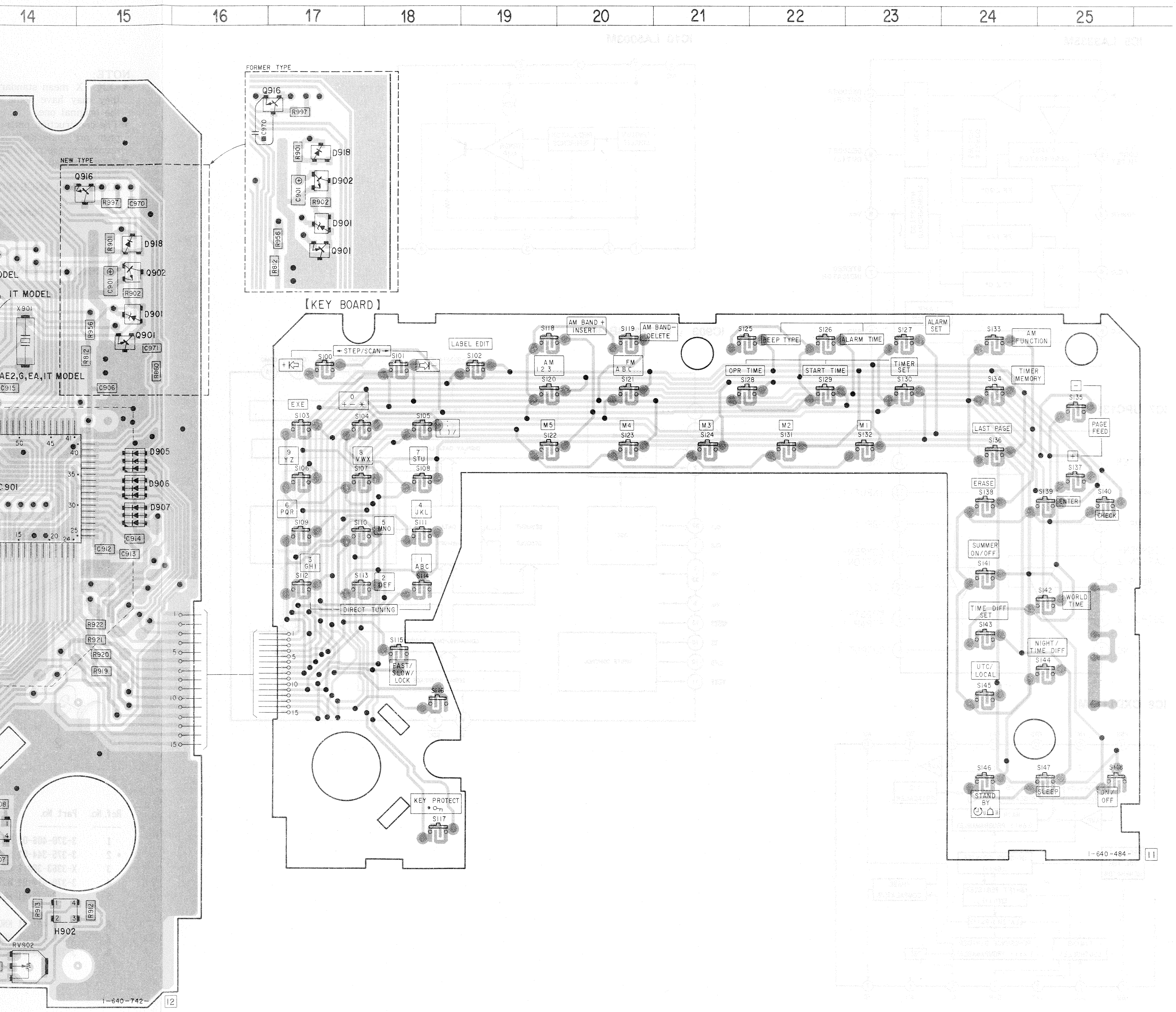

3
4
5
6
7
8
9
10
11
12
13
14
15
【MICRO COMPUTER BOARD】
IC908
REG
S-81230AG-RB
IC907
REG
S-81230AG-RB
Q904, 905
POWER ON/OFF SWITCH
Q904
DTA143ZK
Q905
DTC124XK
IC910 (1/6)
SN74HCU04ANS
D901
RD5.1M-B2
PL1
Q901
2SB815B6
LAMP DRIVER
Q902
2SC2412K-R
LAMP DRIVER
D918
SB01-05CP
Q916
DTC124XK
BEEP SWITCH
S905
LOCK
POWER
RV901, 902
Plese dont move this Ajustment resistor
Q903
DTA143ZK
B+ SWITCH
IC911
AMP
IC911 (1/2)
BA10358F
IC911 (2/2)
BA10358F-T1
H901
LT120
H902
LT120
S902
TIME SET
S903
LIGHT/BATT CHECK
S904
(TEST)
US
CND
E2
EA
2AE2
G
IT, EA
IT
D903
IMN10
D904
IMN11
D905
IMN10
D906
IMN10
D907
IMN10
IC901
μPD75316GF-181-3B9
IC901
SYSTEM CONTROL/ LCD, KEY MATRIX DRIVER
IC906
RESET
S-80727AN-DQ
S901
(RESET)
X901
2MHz
X903
32.768 KHz
125nSEC
3.3Vp-p
IC912 (1/6)
SN74HCU04ANS
IC912
IC902
μPD75328GC-522-3B9
X902
2MHz
2.7Vp-p
8μSEC
NEW TYPE
R860
3.3k
C971
100p
IC913 (1/4)
SN74HC08ANS
IC913
IC915
BU4066BF
IC915
SWITCH
IC903
PROGRAMMABLE LCD CONTROL/DRIVER
IC903
μPD7225GB-3B7
LCD901
LIQUID CRYSTAL DISPLAY
S133-114
TUNING
S135, 137
PAGE FEED
S100, 101
◄ STEP/SCAN ►
4 JKL
3 GHI
2 DEF
1 ABC
0 +-*
FAST/ SLOW/ LOCK
EXE
: ( )/
9 YZ
8 VWX
M5
M4
M3
M2
M1
AM BAND + INSERT
AM BAND - DELETE
AM 123...
FM ABC...
AM FUNCTION
TIMER MEMORY
LAST PAGE
ERASE
ENTER
CHECK
START TIME
ALARM TIME
OPR TIME
BEEP TYPE
LABEL EDIT
S111
S112
S113
S114
S104
S115
S103
S105
S106
S107
S122
S123
S124
S131
S132
S118
S119
S116
S120
S121
S100
S101
S133
S134
S136
S137
S135
S138
S139
S140
S129
S126
S128
S125
S102
P31 REQUEST
P30 READY
PROM/SELECT/P82
PLL SELECT/P21
PLL LATCH/P22
NEW TYPE


12
13
14
15
16
17
18
19
20
21
22
23
A
B
C
D
E
F
G
H
I
J
K
Q904, 905 POWER ON/OFF SWITCH
Q904 DTA143ZK
Q905 DTC124XK
IC910 D/A CONVERTER
IC910 (1/6) SN74HCU04ANS
IC910 (2/6) SN74HCU04ANS
IC910 (3/6) SN74HCU04ANS
IC910 (4/6) SN74HCU04ANS
IC910 (5/6) SN74HCU04ANS
IC910 (6/6) SN74HCU04ANS
R929-940 0.5%
IC902 SYSTEM CONTROL/ LCD DRIVER
IC902 μPD75328GC-522 -3B9
IC906 S-80727AN-DQ
125nSEC
3.3Vp-p
8μSEC
2.7Vp-p
X902 2MHz
X903 32.768 KHz
Q909 2SC2412K-R
Q908 2SC2412K-R
Q906 DTC124XK POWER ON/OFF SWITCH
Q907 DTA143ZK B+ SWITCH
Q915 DTA143ZK TIMER SWITCH
D908 DAN202K
D909 DAN202K
D910 DAN202K
D911 DAN202K
Q910 DTA143ZK B+ SWITCH
Q911 DTC124XK SWITCHING
Q912 DTA143ZK B+ SWITCH
Q913 DTC114TK SWITCHING
Q914 DTC114TK SWITCHING
NEW TYPE
IC912 (1/6) SN74HCU04ANS
IC912 (2/6) SN74HCU04ANS
IC912 (3/6) SN74HCU04ANS
IC912 (4/6) SN74HCU04ANS
IC912 (5/6) SN74HCU04ANS
IC912 (6/6) SN74HCU04ANS
IC913 (1/4) SN74HC08ANS
IC913 (2/4) SN74HC08ANS
IC913 (3/4) SN74HC08ANS
IC913 (4/4) SN74HC08ANS
IC904 M6M80021FP
IC905 M6M80021FP
IC904 IC905 2048 BIT CMOS-EEROM
IC914 BU4066BF SWITCH
IC915 BU4066BF SWITCH
IC912 IC913
CN901
1 SIDE U/*L
2 MODE SSB/*AM
3 FM S CURVE
4 *MUTE
5 IF NAR./*WIDE
6 SIGNAL LEVEL
7 UN LOCK
8 DATA
9 LATCH
10 CLOCK
11 GND
12 IF COUNT
13 D/A OUT
14 GND
15 CPU POWER
16 GND
17 6-4V
18 BAND
19 BAND
20 BAND
21 POWER ON/*OFF
22 BEEP
23 TIMER ON
24 LINE
TO SIGNAL BOARD
R820 100
R981 100k
R986 2.2k

5-5. PRINTED WIRING BOARD S – MICRO COMPUTER – •Refer to Page 38 for Semiconductor Lead Layout



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
[MICRO COMPUTER BOARD]
A TO SIGNAL BOARD
FORMER TYPE
NEW TYPE
CN901
IC914
IC915
S901 (RESET)
S904 (TEST)
IC905
IC904
IC903
IC906
D902
Q913
Q914
Q911
Q912
LCD 901
IC913
IC912
D910
D911
Q908
Q909
Q907
Q906
D908
D909
Q915
CT901
WHT
Q910
X903
IC902
X902
IC910
D912
IC908
IC907
Q904
Q905
C903
S905 LOCK POWER
S903 LIGHT/BATT CHECK
S902 TIME SET
FORMER TYPE
R816
EA, IT MODEL
IT MODEL
D904
D903
X901
2AE2,G,EA,IT MODEL
EA MODEL
US,CND,E2 MODEL
NEW TYPE
Q916
D918
Q902
D901
Q901
D905
D906
D907
IC901
PL1
Q903
H901
PV901
RV902
H902
IC911
1-640-742-
12


14
15
16
17
18
19
20
21
22
23
24
25
FORMER TYPE
NEW TYPE
Q916
R997
C970
R901
D918
D902
C901
R902
D901
Q901
Q902
R956
R812
C971
R860
C906
AE2,G,EA,IT MODEL
IT MODEL
X901
C915
IC901
D905
D906
D907
C914
C912
C913
R922
R921
R920
R919
H902
R913
R912
RV902
1-640-742-
12
【KEY BOARD】
STEP/SCAN
LABEL EDIT
AM BAND + INSERT
AM BAND - DELETE
BEEP TYPE
ALARM TIME
ALARM SET
AM FUNCTION
AM 1 2 3 ...
FM A B C ...
OPR TIME
START TIME
TIMER SET
TIMER MEMORY
EXE
LAST PAGE
PAGE FEED
M5
M4
M3
M2
M1
9 Y Z
8 V W X
7 S T U
6 P Q R
5 M N O
4 J K L
3 G H I
2 D E F
1 A B C
0
DIRECT TUNING
ERASE
ENTER
CHECK
SUMMER ON/OFF
WORLD TIME
TIME DIFF SET
NIGHT / TIME DIFF
UTC/ LOCAL
FAST/ SLOW/ LOCK
KEY PROTECT
STAND BY
SLEEP
ON/ OFF
S100
S101
S102
S103
S104
S105
S106
S107
S108
S109
S110
S111
S112
S113
S114
S115
S116
S117
S118
S119
S120
S121
S122
S123
S124
S125
S126
S127
S128
S129
S130
S131
S132
S133
S134
S135
S136
S137
S138
S139
S140
S141
S142
S143
S144
S145
S146
S147
S148
1-640-484-
11

- **SEMICONDUCTOR LOCATION**

Ref. No.	Location
D901	C – 15
D902	C – 6
D903	D – 13
D904	C – 13
D905	E – 15
D906	E – 15
D907	E – 15
D908	C – 2
D909	C – 1
D910	D – 4
D911	E – 4
D912	H – 4
D918	C – 15
H901	I – 13
H902	J – 14
IC901	E – 14
IC902	F – 3
IC903	C – 12
IC904	C – 5
IC905	C – 3
IC906	C – 13
IC907	I – 4
IC908	I – 3
IC910	H – 2
IC911	J – 13
IC912	D – 3
IC913	D – 2
IC914	A – 6
IC915	A – 6
Q901	D – 15
Q902	C – 15
Q903	H – 13
Q904	I – 2
Q905	I – 2
Q906	C – 1
Q907	C – 1
Q908	B – 1
Q909	B – 2
Q910	E – 3
Q911	D – 4
Q912	D – 5
Q913	C – 4
Q914	D – 4
Q915	C – 1
Q916	B – 15

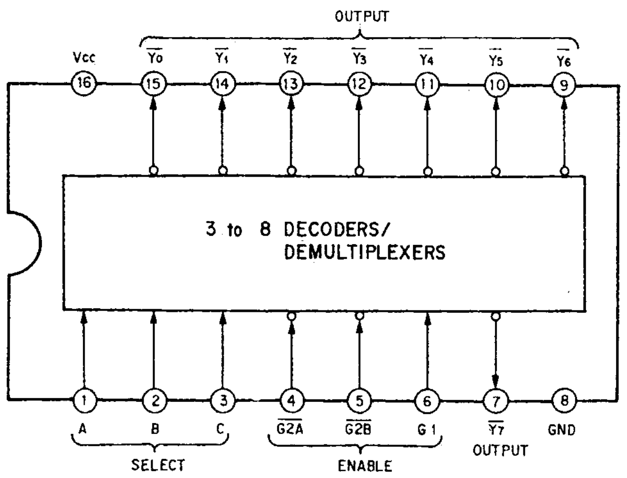
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.

CND	:Canadian
IT	:Italian
G	:Germany
EA	:Saudi Arabia

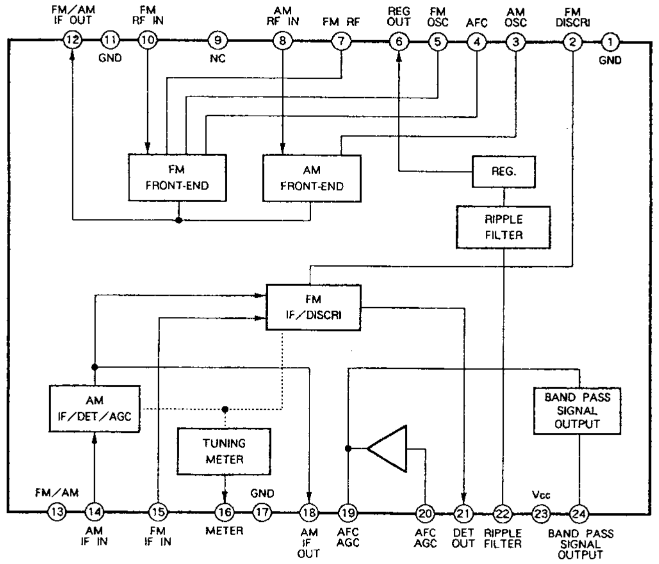
- 1AE2, 2AE2 : This shows the differences of the FM/SW frequency bands.

•IC Block Diagrams.

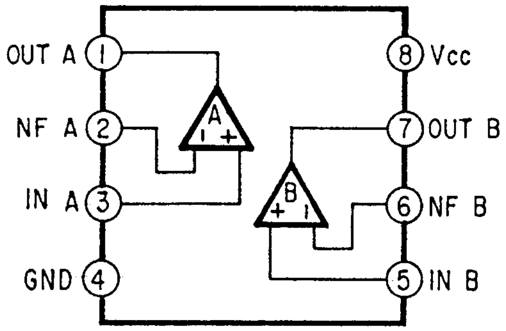
IC1 74HC138ANS


OUTPUT
Vcc
$\overline{Y0}$
$\overline{Y1}$
$\overline{Y2}$
$\overline{Y3}$
$\overline{Y4}$
$\overline{Y5}$
$\overline{Y6}$
16
15
14
13
12
11
10
9
3 to 8 DECODERS/
DEMULTIPLEXERS
1
2
3
4
5
6
7
8
A
B
C
$\overline{G2A}$
$\overline{G2B}$
G1
$\overline{Y7}$
GND
SELECT
ENABLE
OUTPUT

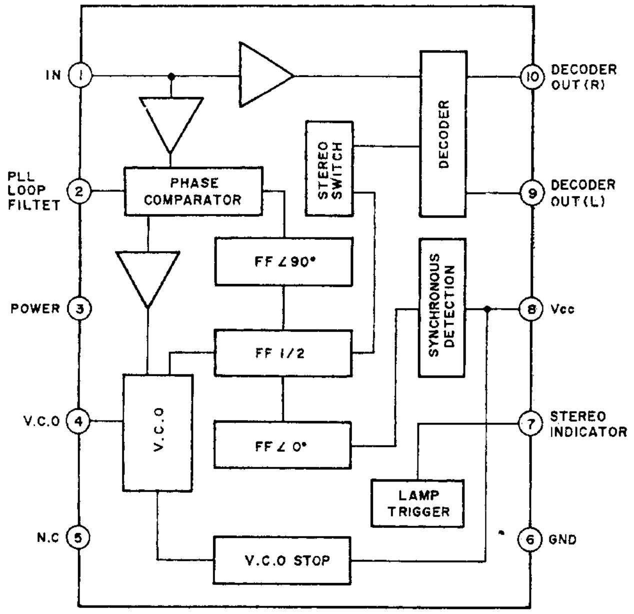
IC2 CXA20111


FM/AM IF OUT
GND
FM RF IN
NC
AM RF IN
FM RF
REG OUT
FM OSC
AFC
AM OSC
FM DISCRI
GND
12
11
10
9
8
7
6
5
4
3
2
1
FM FRONT-END
AM FRONT-END
REG.
RIPPLE FILTER
FM IF/DISCRI
AM IF/DET/AGC
TUNING METER
BAND PASS SIGNAL OUTPUT
FM/AM
GND
Vcc
13
14
15
16
17
18
19
20
21
22
23
24
AM IF IN
FM IF IN
METER
AM IF OUT
AFC AGC
AFC AGC
DET OUT
RIPPLE FILTER
BAND PASS SIGNAL OUTPUT

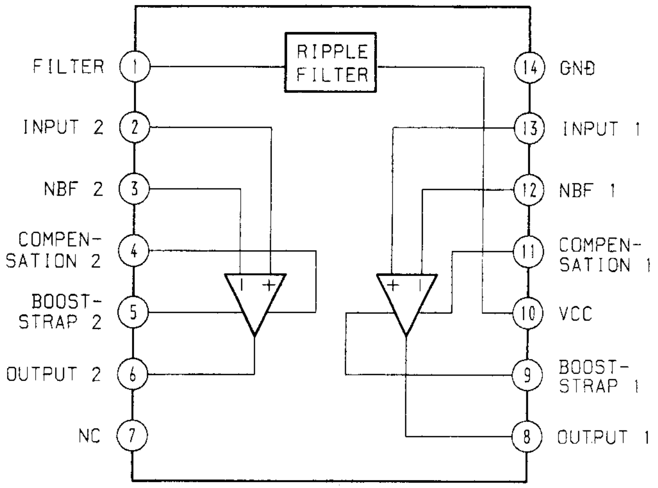
IC3, 4, 6 LM358DR


OUT A
NF A
IN A
GND
1
2
3
4
A
B
8
7
6
5
Vcc
OUT B
NF B
IN B

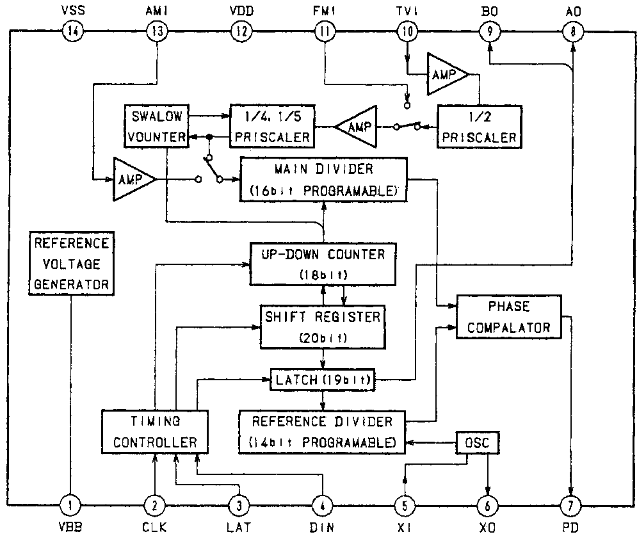
IC5 LA3335M


IN
PLL LOOP FILTET
POWER
V.C.O
N.C
1
2
3
4
5
PHASE COMPARATOR
STEREO SWITCH
DECODER
FF ∠90°
FF 1/2
FF ∠0°
V.C.O
SYNCHRONOUS DETECTION
LAMP TRIGGER
V.C.O STOP
10
9
8
7
6
DECODER OUT(R)
DECODER OUT(L)
Vcc
STEREO INDICATOR
GND

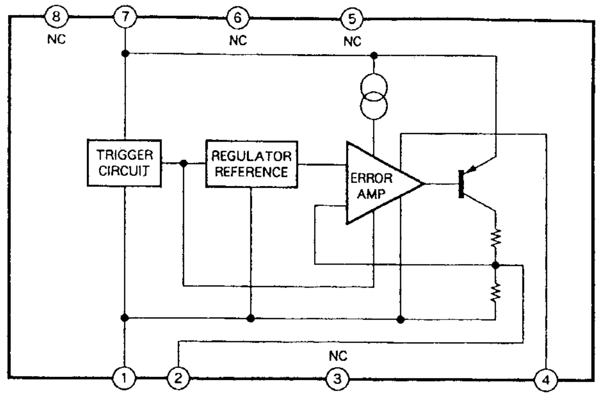
IC7 UPC1316C


FILTER
INPUT 2
NBF 2
COMPEN-SATION 2
BOOST-STRAP 2
OUTPUT 2
NC
1
2
3
4
5
6
7
RIPPLE FILTER
14
13
12
11
10
9
8
GND
INPUT 1
NBF 1
COMPEN-SATION 1
VCC
BOOST-STRAP 1
OUTPUT 1

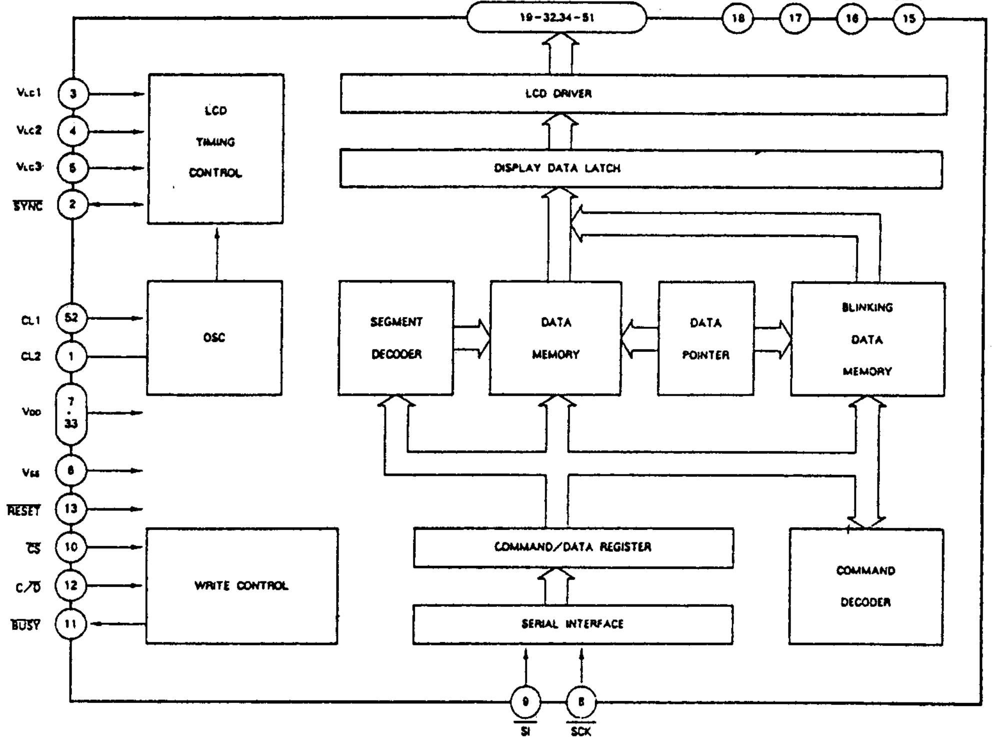
IC8 CXD1118M


VSS
AMI
VDD
FMI
TVI
BO
AO
14
13
12
11
10
9
8
AMP
SWALOW VOUNTER
1/4, 1/5 PRISCALER
AMP
1/2 PRISCALER
AMP
MAIN DIVIDER (16bit PROGRAMABLE)
REFERENCE VOLTAGE GENERATOR
UP-DOWN COUNTER (18bit)
SHIFT REGISTER (20bit)
PHASE COMPALATOR
LATCH (19bit)
TIMING CONTROLLER
REFERENCE DIVIDER (14bit PROGRAMABLE)
OSC
1
2
3
4
5
6
7
VBB
CLK
LAT
DIN
XI
XO
PD

IC10 LA5003M


8
7
6
5
NC
NC
NC
TRIGGER CIRCUIT
REGULATOR REFERENCE
ERROR AMP
NC
1
2
3
4

IC903 μ PD7225GB-3B7


S0-S13.S14-S31
19-32.34-51
COM3
COM2
COM1
COM0
18
17
16
15
VLC1
VLC2
VLC3
$\overline{SYNC}$
3
4
5
2
LCD TIMING CONTROL
LCD DRIVER
DISPLAY DATA LATCH
CL1
CL2
52
1
OSC
SEGMENT DECODER
DATA MEMORY
DATA POINTER
BLINKING DATA MEMORY
VDD
7
33
VSS
6
$\overline{RESET}$
13
$\overline{CS}$
10
C/$\overline{D}$
12
$\overline{BUSY}$
11
WRITE CONTROL
COMMAND/DATA REGISTER
SERIAL INTERFACE
COMMAND DECODER
9
8
$\overline{SI}$
$\overline{SCK}$

SECTION 6
EXPLODED VIEWS

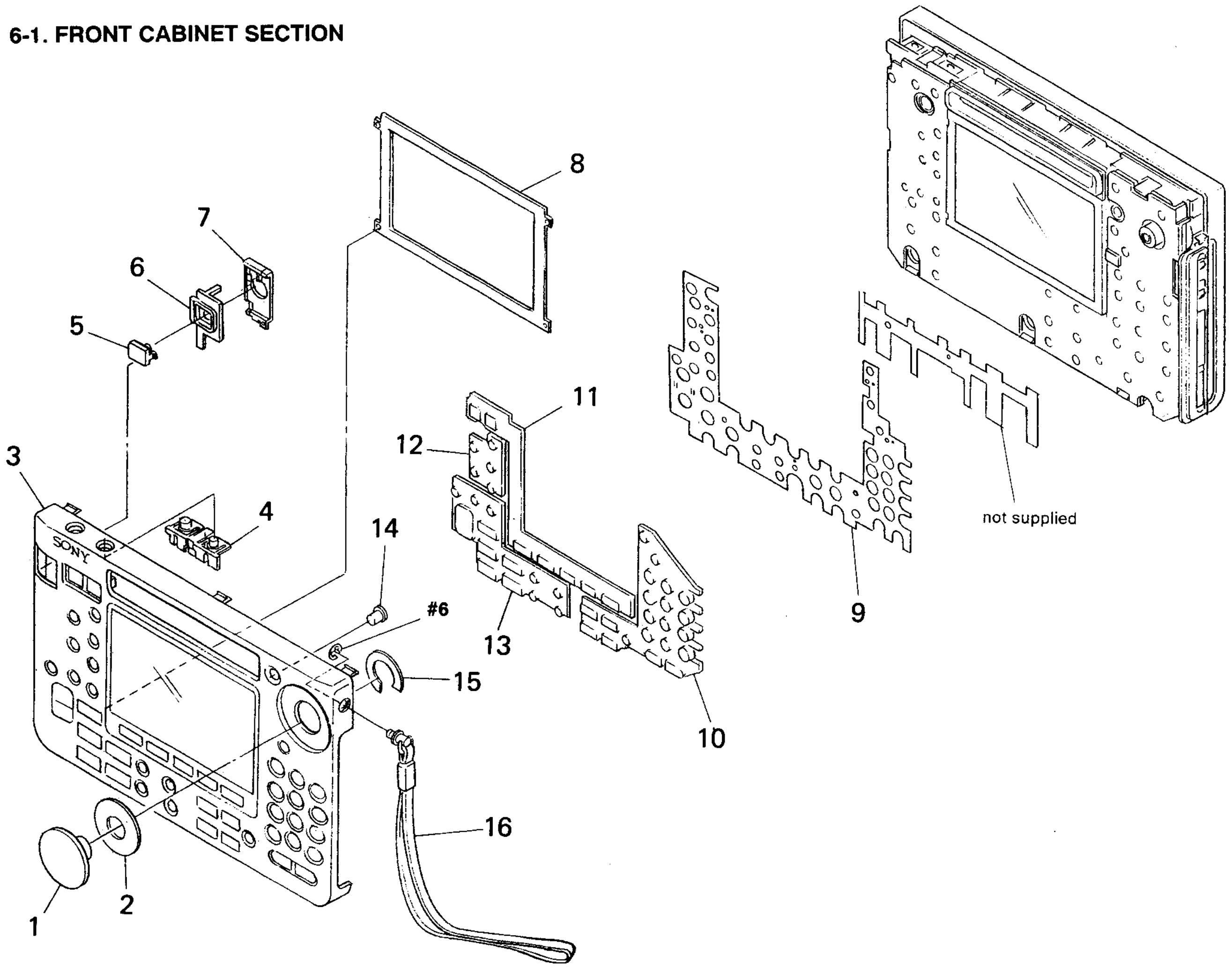
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) .... (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

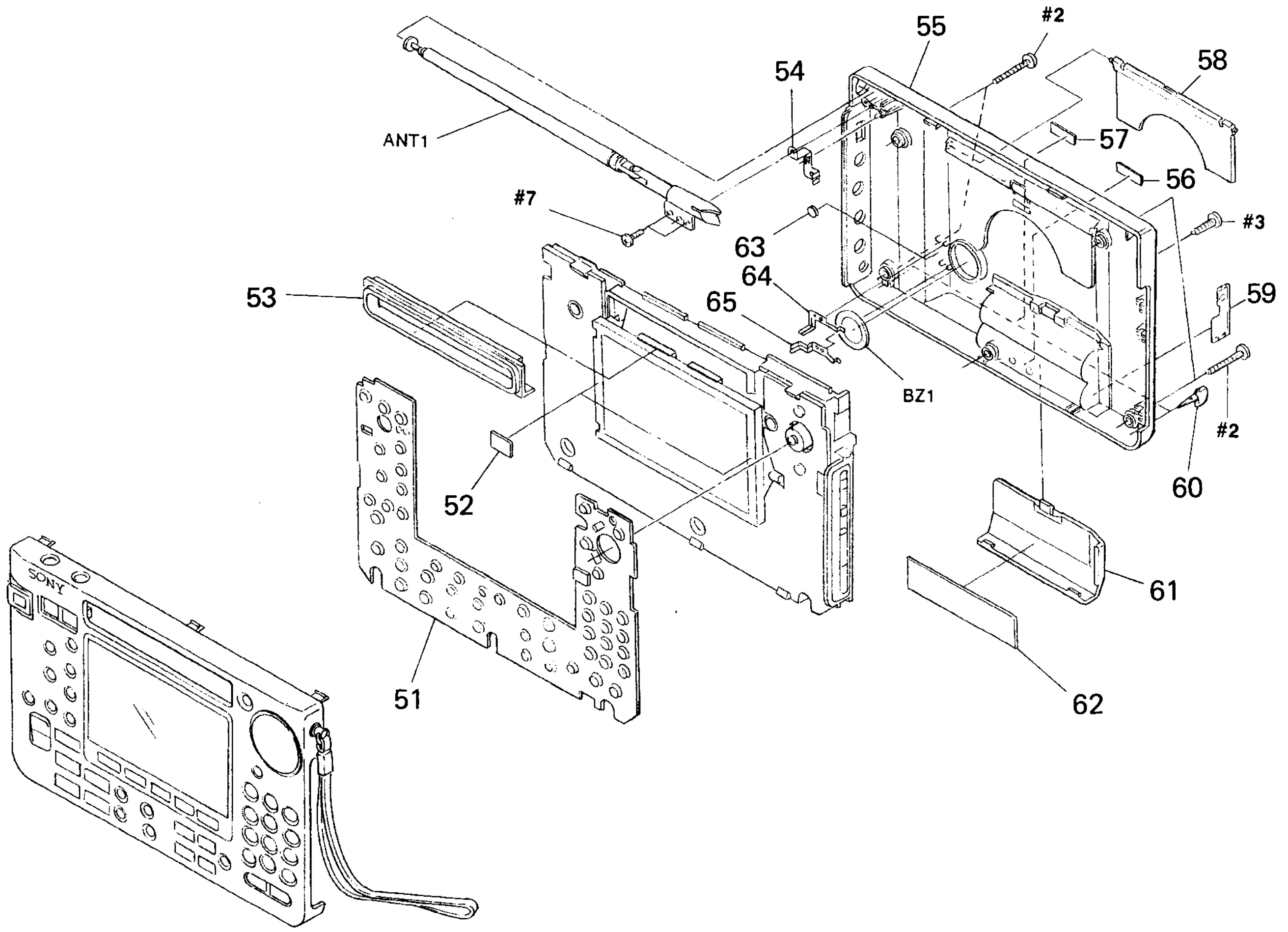
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

6-1. FRONT CABINET SECTION



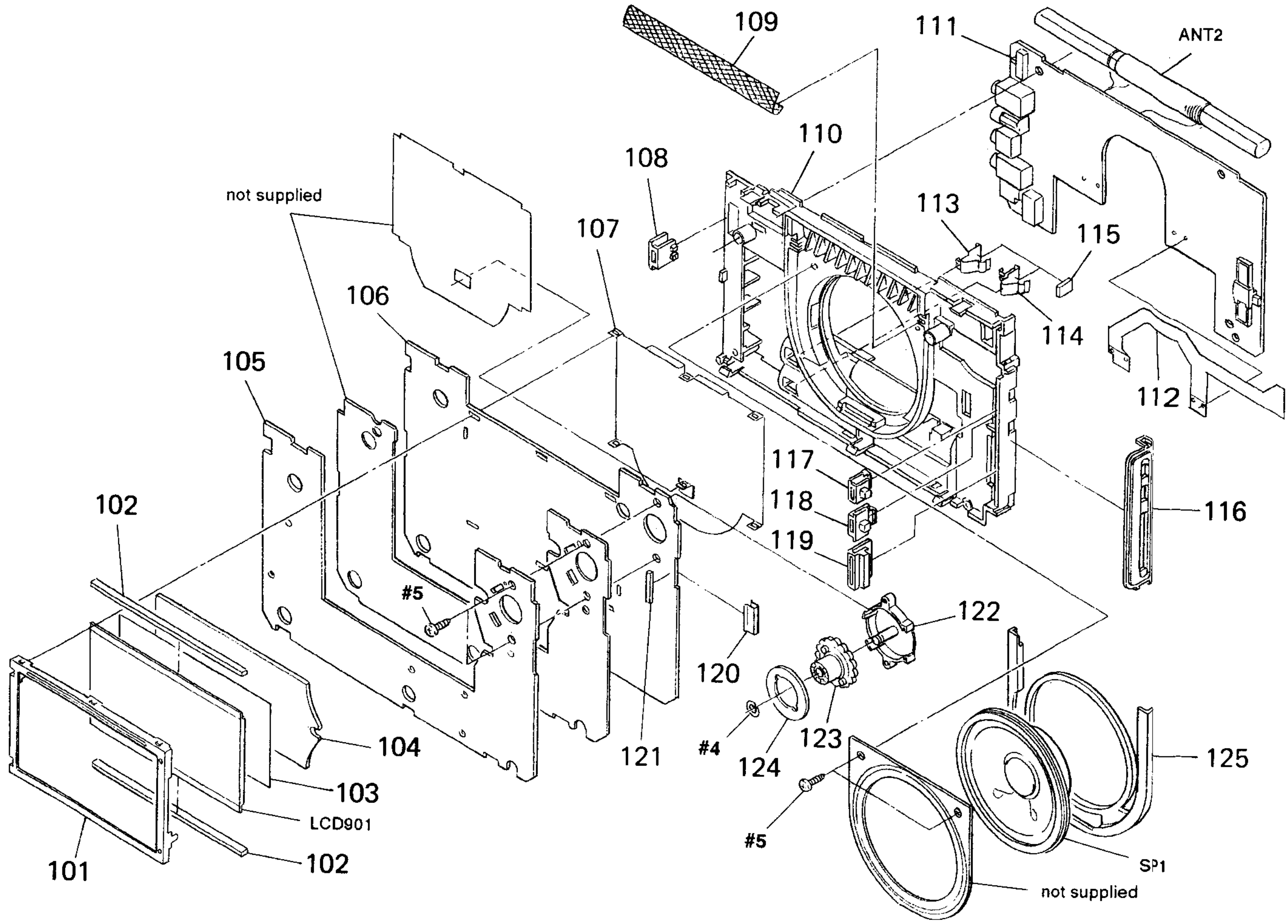
Ref. No.	Part No.	Description	Remark
1	3-370-406-01	KNOB (ENCODER)	
* 2	3-375-344-01	SPACER (R. E)	
3	X-3363-388-1	CABINET (FRONT) ASSY	
4	3-370-417-01	BUTTON (LIGHT)	
5	3-370-418-01	BUTTON (POWER)	
6	3-370-431-01	KNOB, POWER	
7	3-370-432-01	RETAINER, KNOB	
8	3-370-405-01	PLATE, BACK	
9	3-370-434-01	SHEET, BUTTON RETAINER	
10	3-370-429-01	BUTTON (D)	
11	3-370-428-01	BUTTON (C)	
12	3-370-393-01	BUTTON (A)	
13	3-370-427-01	BUTTON (B)	
14	3-370-409-01	BUTTON (E)	
15	3-370-397-01	WASHER	
16	3-373-147-01	STRAY, HAND	

6-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
51	1-572-854-11	SWITCH, RUBBER KEY	
52	3-831-441-XX	SPACER	
53	3-370-433-01	DUCT, OPEN BLOCK	
54	3-370-425-01	PLATE, CONTACT, ANT	
55	3-370-438-01	CABINET (REAR)	
* 56	3-375-751-01	LABEL (B), BATTERY MARK	
* 57	3-372-110-01	LABEL, BATTERY MARK	
58	3-370-402-01	STAND	
59	3-370-423-01	TERMINAL (+, -), BATTERY	
60	3-370-422-01	FOOT, RUBBER	
61	3-370-403-01	LID, BATTERY CASE	
62	9-911-844-XX	CUSHION (BATTERY CASE LID)	
63	3-368-590-01	CUSHION (A)	
64	3-370-396-01	PLATE (B), CONTACT, BUZZER	
65	3-370-395-01	PLATE (A), CONTACT, BUZZER	
ANT1	1-501-512-11	ANTENNA, TELESCOPIC	
BZ1	1-529-102-11	BUZZER	

6-3. LCD SECTION


109
111
ANT2
110
108
not supplied
113
115
107
106
114
105
112
117
102
118
116
119
#5
122
120
123
#4
124
104
121
125
103
LCD901
#5
101
102
SP1
not supplied

Ref. No.	Part No.	Description	Remark
101	3-370-424-01	HOLDER, LCD	
102	1-535-946-11	CONDUCTOR, CONNECTION (LCD)	
103	3-374-110-01	SHEET, DISPERSE	
104	3-370-407-01	PLATE, LIGHT GUIDE	
105	1-640-484-11	PC BOARD, KEY	
* 106	A-3661-337-A	MICRO COMPUTER BOARD, COMPLETE (EXCEPT UK)	
* 106	A-3661-379-A	MICRO COMPUTER BOARD, COMPLETE (UK)	
107	3-370-426-01	RETAINER, LCD HOLDER	
108	3-370-413-01	KNOB (ATT)	
109	3-372-112-01	SHEET METAL, SP	
* 110	3-370-439-01	CHASSIS	
* 111	A-3679-276-A	SIGNAL BOARD, COMPLETE (EXCEPT UK)	
* 111	A-3679-291-A	SIGNAL BOARD, COMPLETE (UK)	

Ref. No.	Part No.	Description	Remark
112	1-640-874-11	PC BOARD, FLEXIBLE	
113	3-370-415-01	TERMINAL (+), BATTERY	
114	3-370-416-01	TERMINAL (-), BATTERY	
115	3-376-821-01	CUSHION (TERMINAL)	
116	3-370-401-01	PANEL	
117	3-370-410-01	KNOB (MONO/ST SELECTION)	
118	3-370-412-01	KNOB (TONE)	
119	3-370-411-01	KNOB (VOLUME)	
120	3-370-400-01	RETAINER, RUBBER CONNECTOR	
121	1-535-947-11	CONDUCTOR, CONNECTION	
122	3-370-421-01	HOLDER (ENCODER)	
123	3-370-399-01	SHAFT, ENCODER	
124	1-452-629-11	MAGNET	
125	3-370-430-01	RUBBER, SP	
SP1	1-544-577-11	SPEAKER (7.7CM)	
ANT2	1-402-574-11	ANTENNA, FERRITE-ROD (LW/M)	
LCD901	1-809-480-11	DISPLAY PANEL, LIQUID CRYSTAL	

MICRO COMPUTER

SECTION 7
ELECTRICAL PART LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA....:μA...., uPA....:μPA....
  uPB....:μPB...., uPC....:μPC....
  uPD....:μPD....
- CAPACITORS
  uF:μF
- COILS
  uH:μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

CND :Canadian
FR :French
IT :Italian
G :Germany
AUS :Australian
EA :Saudi Arabia

• **1AE2, 2AE2:** This shows the differences of the FM/SW frequency bands.

Ref. No.	Part No.	Description	Remark
*	A-3661-337-A	MICRO COMPUTER BOARD, COMPLETE (EXCEPT UK)	
*	A-3661-379-A	MICRO COMPUTER BOARD, COMPLETE (UK)	

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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C901	1-135-149-21	TANTALUM CHIP 2.2uF 20% 10V	
C902	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C903	1-125-486-11	DOUBLE LAYERS 0.22F 5.5V	
C905	1-164-346-11	CERAMIC CHIP 1uF 16V	
C906	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C909	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C910	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C912	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C913	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C914	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C915	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C916	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C917	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C919	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C920	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C921	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C922	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C923	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C924	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C925	1-163-089-00	CERAMIC CHIP 6PF 50V	
C926	1-164-346-11	CERAMIC CHIP 1uF 16V	
C927	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C928	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C929	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C931	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C932	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C933	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C934	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C935	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C936	1-135-149-21	TANTALUM CHIP 2.2uF 20% 10V	
C937	1-135-149-21	TANTALUM CHIP 2.2uF 20% 10V	
C938	1-164-346-11	CERAMIC CHIP 1uF 16V	
C939	1-164-346-11	CERAMIC CHIP 1uF 16V	
C940	1-164-346-11	CERAMIC CHIP 1uF 16V	
C941	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C942	1-164-346-11	CERAMIC CHIP 1uF 16V	
C950	1-164-346-11	CERAMIC CHIP 1uF 16V	
C951	1-164-346-11	CERAMIC CHIP 1uF 16V	
C960	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C961	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C962	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C963	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C964	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C965	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C966	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C967	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C969	1-164-346-11	CERAMIC CHIP 1uF 16V	
C970	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(NEW)
C970	1-161-039-00	CERAMIC 0.1uF 10% 50V	(FORMER)
C971	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	(NEW)

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN901	1-573-217-21	CONNECTOR, FPC (NON-ZIF) 24P	

< TRIMMER >

Ref. No.	Part No.	Description	Remark
CT901	1-141-433-11	CAP, TRIMMER 20PF	

< DIODE >

Ref. No.	Part No.	Description	Remark
D901	8-719-105-82	DIODE RD5.1M-B2	
D902	8-719-105-82	DIODE RD5.1M-B2	

SIGNAL

Ref. No.	Part No.	Description		Remark	
C216	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C217	1-164-149-11	CERAMIC CHIP	36PF	5%	50V
C218	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C219	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C220	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C221	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C222	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C223	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C224	1-164-362-11	CERAMIC CHIP	470PF		50V
C225	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C226	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C227	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C228	1-162-950-11	CERAMIC CHIP	56PF	5%	50V
C229	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C230	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C231	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C232	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C233	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C234	1-164-346-11	CERAMIC CHIP	1uF		16V
C235	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C236	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C237	1-162-941-11	CERAMIC CHIP	10PF	0.5PF	50V
C238	1-164-346-11	CERAMIC CHIP	1uF		16V
C239	1-164-346-11	CERAMIC CHIP	1uF		16V
C240	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C241	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C242	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C243	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C244	1-126-246-11	ELECT CHIP	220uF	20%	4V
C245	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C246	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C247	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C248	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C249	1-164-145-11	CERAMIC CHIP	390PF	5%	50V
C250	1-162-941-11	CERAMIC CHIP	10PF	0.5PF	50V
C251	1-164-346-11	CERAMIC CHIP	1uF		16V
C252	1-164-346-11	CERAMIC CHIP	1uF		16V
C253	1-162-934-11	CERAMIC CHIP	3PF	0.25PF	50V
		< FILTER >			
CD1	1-577-658-11	FILTER, CERAMIC (10.7MHz)			
CF1	1-567-943-11	FILTER, CERAMIC (455KHz)			
CF2	1-579-425-11	FILTER, CERAMIC (457KHz)			
CF3	1-577-658-11	FILTER, CERAMIC (10.7MHz)			
CF4	1-577-658-11	FILTER, CERAMIC (10.7MHz)			
		< CONNECTOR >			
* CN1	1-566-430-11	PIN, CONNECTOR 2P			

Ref. No.	Part No.	Description		Remark
		< VIBRATOR >		
CR1	1-579-420-11	VIBRATOR, CERAMIC (453KHz)		
CR2	1-579-421-11	VIBRATOR, CERAMIC (457KHz)		
		< TRIMMER >		
CT1	1-141-424-11	CAP, ADJ 30PF		
CT2	1-141-424-11	CAP, ADJ 30PF		
CT3	1-141-422-11	CAP, ADJ 10PF		
CT4	1-141-422-11	CAP, ADJ 10PF		
CT6	1-141-422-11	CAP, ADJ 10PF		
		< DIODE >		
D1	8-719-123-79	DIODE	1SS279	
D2	8-719-123-79	DIODE	1SS279	
D3	8-719-400-18	DIODE	MA152WK	
D4	8-719-400-18	DIODE	MA152WK	
D5	8-719-123-79	DIODE	1SS279	
D6	8-719-123-79	DIODE	1SS279	
D7	8-719-400-18	DIODE	MA152WK	
D8	8-719-104-34	DIODE	1S2836	
D9	8-719-400-18	DIODE	MA152WK	
D10	8-719-104-34	DIODE	1S2836	
D11	8-719-123-79	DIODE	1SS279	
D12	8-719-123-79	DIODE	1SS279	
D13	8-719-123-79	DIODE	1SS279	
D14	8-719-123-79	DIODE	1SS279	
D15	8-719-123-79	DIODE	1SS279	
D16	8-719-123-79	DIODE	1SS279	
D17	8-719-123-79	DIODE	1SS279	
D18	8-719-123-79	DIODE	1SS279	
D19	8-719-123-79	DIODE	1SS279	
D20	8-719-123-79	DIODE	1SS279	
D21	8-719-123-79	DIODE	1SS279	
D22	8-719-123-79	DIODE	1SS279	
D23	8-719-123-79	DIODE	1SS279	
D24	8-719-123-79	DIODE	1SS279	
D25	8-719-123-79	DIODE	1SS279	
D26	8-719-123-79	DIODE	1SS279	
D27	8-719-123-79	DIODE	1SS279	
D28	8-719-123-79	DIODE	1SS279	
D29	8-719-400-18	DIODE	MA152WK	
D30	8-719-400-18	DIODE	MA152WK	
D31	8-719-400-18	DIODE	MA152WK	
D32	8-719-400-18	DIODE	MA152WK	
D33	8-719-938-72	DIODE	SB01-05CP	
D34	8-719-938-72	DIODE	SB01-05CP	
D35	8-719-123-79	DIODE	1SS279	
D36	8-713-300-57	DIODE	1T-33	

SIGNAL

Ref. No.	Part No.	Description	Remark
D37	8-713-300-57	DIODE 1T-33	
D38	8-713-300-57	DIODE 1T-33	
D39	8-713-300-57	DIODE 1T-33	
D40	8-719-400-18	DIODE MA152WK	
D41	8-713-300-57	DIODE 1T-33	
D42	8-719-106-98	DIODE RD16M-B	
D43	8-719-400-18	DIODE MA152WK	
D44	8-719-105-91	DIODE RD5.6M-B2	
D45	8-719-938-72	DIODE SB01-05CP	
D46	8-719-938-72	DIODE SB01-05CP	
D47	8-719-400-18	DIODE MA152WK	
D48	8-719-104-34	DIODE 1S2836	

< IC >

Ref. No.	Part No.	Description	Remark
IC1	8-759-926-11	IC SN74HC138ANS	
IC2	8-752-050-00	IC CX20111	
IC3	8-759-998-98	IC LM358D	
IC4	8-759-998-98	IC LM358D	
IC5	8-759-804-98	IC LA3335M	
IC6	8-759-998-98	IC LM358D	
IC7	8-759-144-31	IC uPC1316C	
IC8	8-752-323-84	IC CXD1118M	
IC9	8-759-031-84	IC SC7S04F	
IC10	8-759-801-15	IC LA5003M	

< JACK >

Ref. No.	Part No.	Description	Remark
J1	1-569-187-11	JACK (AM EXE ANT)	
J2	1-563-330-11	JACK (TAPE REMOTE)	
J3	1-573-670-11	JACK 1P (TAPE LINE OUT)	
J4	1-507-806-00	JACK 1P (HEADPHONE)	
J5	1-573-180-11	JACK, DC (DC IN 6V)	

< COIL >

Ref. No.	Part No.	Description	Remark
L2	1-410-793-11	INDUCTOR CHIP 2.2mH	
L3	1-410-991-11	INDUCTOR CHIP 0.68uH	
L4	1-410-995-41	INDUCTOR CHIP 1.5uH	
L5	1-410-212-51	INDUCTOR CHIP 47uH	
L6	1-412-002-31	INDUCTOR CHIP 4.7uH	
L7	1-412-001-31	INDUCTOR CHIP 3.9uH	
L8	1-410-991-11	INDUCTOR CHIP 0.68uH	
L9	1-410-994-11	INDUCTOR CHIP 1.2uH	
L10	1-412-008-11	INDUCTOR CHIP 15uH	
L11	1-410-994-11	INDUCTOR CHIP 1.2uH	
L12	1-410-994-11	INDUCTOR CHIP 1.2uH	
L13	1-412-002-31	INDUCTOR CHIP 4.7uH	
L14	1-410-998-31	INDUCTOR CHIP 2.7uH	
L15	1-410-995-41	INDUCTOR CHIP 1.5uH	
L16	1-410-997-31	INDUCTOR CHIP 2.2uH	
L17	1-410-212-51	INDUCTOR CHIP 47uH	
L18	1-410-993-11	INDUCTOR CHIP 1uH	
L19	1-410-994-11	INDUCTOR CHIP 1.2uH	
L20	1-412-004-31	INDUCTOR CHIP 6.8uH	
L21	1-410-997-31	INDUCTOR CHIP 2.2uH	
L22	1-410-991-11	INDUCTOR CHIP 0.68uH	
L23	1-410-988-11	INDUCTOR CHIP 0.39uH	
L24	1-412-002-31	INDUCTOR CHIP 4.7uH	
L25	1-410-987-11	INDUCTOR CHIP 0.33uH	
L26	1-410-987-11	INDUCTOR CHIP 0.33uH	
L27	1-410-996-31	INDUCTOR CHIP 1.8uH	
L28	1-410-993-11	INDUCTOR CHIP 1uH	
L29	1-410-991-11	INDUCTOR CHIP 0.68uH	
L30	1-410-993-11	INDUCTOR CHIP 1uH	
L31	1-412-006-31	INDUCTOR CHIP 10uH	
L32	1-410-987-11	INDUCTOR CHIP 0.33uH	
L33	1-410-987-11	INDUCTOR CHIP 0.33uH	
L34	1-410-995-41	INDUCTOR CHIP 1.5uH	
L35	1-410-993-11	INDUCTOR CHIP 1uH	
L36	1-410-985-11	INDUCTOR CHIP 0.22uH	
L37	1-410-987-11	INDUCTOR CHIP 0.33uH	
L38	1-412-001-31	INDUCTOR CHIP 3.9uH	
L39	1-410-997-31	INDUCTOR CHIP 2.2uH	
L40	1-410-990-31	INDUCTOR CHIP 0.56uH	
L41	1-410-999-11	INDUCTOR CHIP 3.3uH	
L42	1-410-985-11	INDUCTOR CHIP 0.22uH	
L43	1-412-006-31	INDUCTOR CHIP 10uH	
L44	1-410-204-31	INDUCTOR CHIP 10uH	
L45	1-410-981-31	INDUCTOR CHIP 0.1uH	
L46	1-410-981-31	INDUCTOR CHIP 0.1uH	
L47	1-410-985-11	INDUCTOR CHIP 0.22uH	
L48	1-410-993-11	INDUCTOR CHIP 1uH	
L49	1-412-002-31	INDUCTOR CHIP 4.7uH	
L50	1-412-006-31	INDUCTOR CHIP 10uH	
L51	1-410-981-31	INDUCTOR CHIP 0.1uH	
L52	1-410-981-31	INDUCTOR CHIP 0.1uH	
L53	1-410-988-11	INDUCTOR CHIP 0.39uH	
L54	1-410-220-31	INDUCTOR CHIP 220uH	
L55	1-410-209-51	INDUCTOR CHIP 27uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2	8-729-116-64	TRANSISTOR 2SK508-K51	
Q3	8-729-116-64	TRANSISTOR 2SK508-K51	
Q4	8-729-901-05	TRANSISTOR DTA124EK (FORMER)	
Q4	8-729-807-87	TRANSISTOR 2SB1295-UL6 (NEW)	
Q5	8-729-116-64	TRANSISTOR 2SK508-K51	
Q6	8-729-116-64	TRANSISTOR 2SK508-K51	
Q7	8-729-807-87	TRANSISTOR 2SB1295-UL6	

SIGNAL

Ref. No.	Part No.	Description	Remark
Q8	8-729-901-00	TRANSISTOR DTC124EK	
Q9	8-729-901-05	TRANSISTOR DTA124EK	
Q10	8-729-901-05	TRANSISTOR DTA124EK	
Q11	8-729-901-05	TRANSISTOR DTA124EK	
Q12	8-729-901-05	TRANSISTOR DTA124EK	
Q13	8-729-901-05	TRANSISTOR DTA124EK	
Q14	8-729-901-05	TRANSISTOR DTA124EK	
Q15	8-729-116-64	TRANSISTOR 2SK508-K51	
Q16	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q17	8-729-116-64	TRANSISTOR 2SK508-K51	
Q18	8-729-116-64	TRANSISTOR 2SK508-K51	
Q19	8-729-114-62	TRANSISTOR 3SK-132A-U35	
Q20	8-729-116-64	TRANSISTOR 2SK508-K51	
Q21	8-729-901-05	TRANSISTOR DTA124EK	
Q22	8-729-901-00	TRANSISTOR DTC124EK	
Q23	8-729-901-00	TRANSISTOR DTC124EK	
Q24	8-729-901-05	TRANSISTOR DTA124EK	
Q25	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q26	8-729-800-36	TRANSISTOR 2SD1048-X6	
Q27	8-729-901-00	TRANSISTOR DTC124EK	
Q28	8-729-800-36	TRANSISTOR 2SD1048-X6	
Q29	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q30	8-729-901-05	TRANSISTOR DTA124EK	
Q31	8-729-114-62	TRANSISTOR 3SK-132A-U35	
Q32	8-729-901-00	TRANSISTOR DTC124EK	
Q33	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q34	8-729-800-36	TRANSISTOR 2SD1048-X6	
Q35	8-729-800-36	TRANSISTOR 2SD1048-X6	
Q36	8-729-901-05	TRANSISTOR DTA124EK	
Q37	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q38	8-729-901-00	TRANSISTOR DTC124EK	
Q39	8-729-923-65	TRANSISTOR DTA143ZK	
Q40	8-729-920-38	TRANSISTOR 2SC2059K-N	
Q41	8-729-208-47	TRANSISTOR 2SK210-GR	
Q42	8-729-220-93	TRANSISTOR 2SK209-G	
Q43	8-729-220-93	TRANSISTOR 2SK209-G	
Q44	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q45	8-729-920-38	TRANSISTOR 2SC2059K-N	
Q46	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q47	8-729-800-36	TRANSISTOR 2SD1048-X6	
Q48	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q49	8-729-901-00	TRANSISTOR DTC124EK	
Q50	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q51	8-729-800-36	TRANSISTOR 2SD1048-X6	
Q52	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q53	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q54	8-729-901-00	TRANSISTOR DTC124EK	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R1	1-216-845-11	METAL CHIP 100K 5% 1/16W	(NEW)
R2	1-216-979-11	METAL CHIP 10 5% 1/16W	
R3	1-216-809-11	METAL CHIP 100 5% 1/16W	
R4	1-216-833-11	METAL CHIP 10K 5% 1/16W	(NEW)
R4	1-216-864-11	METAL CHIP 0 5% 1/16W	(FORMER)
R5	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R6	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R7	1-216-813-11	METAL CHIP 220 5% 1/16W	
R8	1-216-979-11	METAL CHIP 10 5% 1/16W	
R9	1-216-807-11	METAL CHIP 68 5% 1/16W	
R10	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R11	1-216-979-11	METAL CHIP 10 5% 1/16W	
R12	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R13	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R14	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R15	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R16	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R17	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R18	1-216-809-11	METAL CHIP 100 5% 1/16W	
R19	1-216-815-11	METAL CHIP 330 5% 1/16W	
R20	1-216-979-11	METAL CHIP 10 5% 1/16W	
R21	1-216-979-11	METAL CHIP 10 5% 1/16W	
R22	1-216-807-11	METAL CHIP 68 5% 1/16W	
R23	1-216-813-11	METAL CHIP 220 5% 1/16W	
R24	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R25	1-216-979-11	METAL CHIP 10 5% 1/16W	
R26	1-216-818-11	METAL CHIP 560 5% 1/16W	
R27	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R28	1-216-806-11	METAL CHIP 56 5% 1/16W	
R29	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R30	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R31	1-216-815-11	METAL CHIP 330 5% 1/16W	
R32	1-216-806-11	METAL CHIP 56 5% 1/16W	
R33	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R34	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R35	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R36	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R37	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R38	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R39	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R40	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R41	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R42	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R43	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R44	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R45	1-216-025-00	METAL CHIP 100 5% 1/10W	

SIGNAL

Ref. No.	Part No.	Description	Remark
R46	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R47	1-216-817-11	METAL CHIP 470 5% 1/16W	
R48	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R49	1-216-817-11	METAL CHIP 470 5% 1/16W	
R50	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R51	1-216-979-11	METAL CHIP 10 5% 1/16W	
R52	1-216-815-11	METAL CHIP 330 5% 1/16W	
R53	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R54	1-216-813-11	METAL CHIP 220 5% 1/16W	
R55	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R56	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R57	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R58	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R59	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R60	1-216-809-11	METAL CHIP 100 5% 1/16W	
R61	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R62	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R63	1-216-809-11	METAL CHIP 100 5% 1/16W	
R64	1-216-805-11	METAL CHIP 47 5% 1/16W	
R65	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R66	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R67	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R68	1-216-809-11	METAL CHIP 100 5% 1/16W	
R69	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R70	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R71	1-216-809-11	METAL CHIP 100 5% 1/16W	
R72	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R73	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R74	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R75	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R76	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R77	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R78	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R79	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R80	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R81	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R82	1-216-815-11	METAL CHIP 330 5% 1/16W	
R83	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R84	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R85	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R86	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R87	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R88	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R89	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R90	1-216-802-11	METAL CHIP 27 5% 1/16W	
R91	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R92	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R93	1-216-076-00	METAL CHIP 13K 5% 1/10W	
R94	1-216-842-11	METAL CHIP 56K 5% 1/16W	
R95	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R96	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R97	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R98	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R99	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R100	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R101	1-216-813-11	METAL CHIP 220 5% 1/16W	
R102	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R103	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R104	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R105	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R106	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R107	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R108	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R109	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R110	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R111	1-216-847-11	METAL CHIP 150K 5% 1/16W	
R112	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R113	1-216-802-11	METAL CHIP 27 5% 1/16W	
R114	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R115	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R116	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R117	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R118	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R119	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R120	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R121	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R122	1-216-805-11	METAL CHIP 47 5% 1/16W	
R123	1-216-809-11	METAL CHIP 100 5% 1/16W	
R124	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R125	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R126	1-216-809-11	METAL CHIP 100 5% 1/16W	
R127	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R128	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R129	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R130	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R131	1-216-802-11	METAL CHIP 27 5% 1/16W	
R132	1-216-088-00	METAL CHIP 43K 5% 1/10W	
R133	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R134	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R135	1-216-809-11	METAL CHIP 100 5% 1/16W	
R136	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R137	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R138	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R139	1-216-847-11	METAL CHIP 150K 5% 1/16W	
R140	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R141	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R142	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R143	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	

SIGNAL

Ref. No.	Part No.	Description			Remark
R144	1-216-821-11	METAL CHIP	1K	5%	1/16W
R145	1-216-821-11	METAL CHIP	1K	5%	1/16W
R146	1-216-839-11	METAL CHIP	33K	5%	1/16W
R147	1-216-833-11	METAL CHIP	10K	5%	1/16W
R148	1-216-839-11	METAL CHIP	33K	5%	1/16W
R149	1-216-839-11	METAL CHIP	33K	5%	1/16W
R150	1-216-835-11	METAL CHIP	15K	5%	1/16W
R151	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R152	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R153	1-216-833-11	METAL CHIP	10K	5%	1/16W
R154	1-216-837-11	METAL CHIP	22K	5%	1/16W
R156	1-216-839-11	METAL CHIP	33K	5%	1/16W
R157	1-216-833-11	METAL CHIP	10K	5%	1/16W
R158	1-216-839-11	METAL CHIP	33K	5%	1/16W
R159	1-216-839-11	METAL CHIP	33K	5%	1/16W
R160	1-216-835-11	METAL CHIP	15K	5%	1/16W
R161	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R162	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R163	1-216-833-11	METAL CHIP	10K	5%	1/16W
R164	1-216-837-11	METAL CHIP	22K	5%	1/16W
R166	1-216-821-11	METAL CHIP	1K	5%	1/16W
R167	1-216-803-11	METAL CHIP	33	5%	1/16W
R168	1-216-821-11	METAL CHIP	1K	5%	1/16W
R169	1-216-803-11	METAL CHIP	33	5%	1/16W
R170	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R171	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R172	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R173	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R174	1-216-809-11	METAL CHIP	100	5%	1/16W
R175	1-216-809-11	METAL CHIP	100	5%	1/16W
R176	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R177	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R178	1-216-845-11	METAL CHIP	100K	5%	1/16W
R179	1-216-845-11	METAL CHIP	100K	5%	1/16W
R180	1-216-845-11	METAL CHIP	100K	5%	1/16W
R181	1-216-817-11	METAL CHIP	470	5%	1/16W
R182	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R183	1-216-815-11	METAL CHIP	330	5%	1/16W
R184	1-216-802-11	METAL CHIP	27	5%	1/16W
R185	1-216-809-11	METAL CHIP	100	5%	1/16W
R186	1-216-843-11	METAL CHIP	68K	5%	1/16W
R187	1-216-809-11	METAL CHIP	100	5%	1/16W
R188	1-216-803-11	METAL CHIP	33	5%	1/16W
R189	1-216-839-11	METAL CHIP	33K	5%	1/16W
R190	1-216-839-11	METAL CHIP	33K	5%	1/16W
R191	1-216-833-11	METAL CHIP	10K	5%	1/16W
R192	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R193	1-216-841-11	METAL CHIP	47K	5%	1/16W
R194	1-216-824-11	METAL CHIP	1.8K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R195	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R196	1-216-837-11	METAL CHIP	22K	5%	1/16W
R197	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R198	1-216-802-11	METAL CHIP	27	5%	1/16W
R199	1-216-833-11	METAL CHIP	10K	5%	1/16W
R200	1-216-833-11	METAL CHIP	10K	5%	1/16W
R201	1-216-833-11	METAL CHIP	10K	5%	1/16W
R202	1-216-833-11	METAL CHIP	10K	5%	1/16W
R203	1-216-845-11	METAL CHIP	100K	5%	1/16W
R204	1-216-817-11	METAL CHIP	470	5%	1/16W
R205	1-216-845-11	METAL CHIP	100K	5%	1/16W
R206	1-216-845-11	METAL CHIP	100K	5%	1/16W
R207	1-216-843-11	METAL CHIP	68K	5%	1/16W
R208	1-216-821-11	METAL CHIP	1K	5%	1/16W
R209	1-216-097-00	METAL CHIP	100K	5%	1/10W
R210	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R211	1-216-821-11	METAL CHIP	1K	5%	1/16W
R212	1-216-845-11	METAL CHIP	100K	5%	1/16W
R213	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R214	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R215	1-216-821-11	METAL CHIP	1K	5%	1/16W
R216	1-216-821-11	METAL CHIP	1K	5%	1/16W
R217	1-216-864-11	METAL CHIP	0	5%	1/16W
R218	1-216-845-11	METAL CHIP	100K	5%	1/16W
R219	1-216-845-11	METAL CHIP	100K	5%	1/16W
R220	1-216-813-11	METAL CHIP	220	5%	1/16W
R221	1-216-809-11	METAL CHIP	100	5%	1/16W (NEW)

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV1	9-910-999-34	RES, ADJ, METAL GLAZE 10K
RV2	1-238-869-11	RES, VAR, SLIDE 20/20 (VOLUME)

< SWITCH >

Ref. No.	Part No.	Description
S1	1-572-855-11	SWITCH, SLIDE (AM SENS)
S2	1-572-272-11	SWITCH, SLIDE (STEREO/MONO)
S3	1-572-855-11	SWITCH, SLIDE (TONE)

< TRANSFORMER >

Ref. No.	Part No.	Description
T1	1-426-357-11	TRANSFORMER, RF
T2	1-426-357-11	TRANSFORMER, RF
T3	1-426-357-11	TRANSFORMER, RF
T4	1-404-976-11	TRANSFORMER, IF
T5	1-404-975-11	TRANSFORMER, IF
T6	1-404-973-11	TRANSFORMER, IF
T7	1-404-974-11	TRANSFORMER, IF
T8	1-404-972-11	TRANSFORMER, IF
T9	1-460-178-11	COIL (WITH CORE)
T10	1-460-179-11	COIL (WITH CORE)

SIGNAL

Ref. No.	Part No.	Description	Remark
T11	1-460-180-11	COIL (WITH CORE)	
T12	1-424-549-11	COIL, OSCILLATION	
T13	1-460-177-11	COIL (WITH CORE)	
T14	1-450-627-11	TRANSFORMER, DC-DC CONVERTER	
		< CRYSTAL >	
X1	1-567-386-11	OSCILLATOR, CRYSTAL (6.275MHz)	
X2	1-578-062-11	VIBRATOR, CRYSTAL (55.39MHz)	
XF1	1-527-372-00	FILTER, CRYSTAL (55.845MHz)	

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
51	1-572-854-11	SWITCH, RUBBER KEY	
102	1-535-946-11	CONDUCTOR, CONNECTION (LCD)	
105	1-640-484-11	PC BOARD, KEY	
112	1-640-874-11	PC BOARD, FLEXIBLE	
121	1-535-947-11	CONDUCTOR, CONNECTION	
124	1-452-629-11	MAGNET	
ANT1	1-501-512-11	ANTENNA, TELESCOPIC	
ANT2	1-402-574-11	ANTENNA, FERRITE-ROD (LW/MW)	
BZ1	1-529-102-11	BUZZER	
LCD901	1-809-480-11	DISPLAY PANEL, LIQUID CRYSTAL	
SP1	1-544-577-11	SPEAKER (7.7CM)	

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remark
⚠	1-465-775-11	ADAPTOR, AC (AC-E600) (AEP, G, FR, E, EA, IT)	
⚠	1-465-846-11	ADAPTOR, AC (AC-E602) (CND)	
⚠	1-465-847-11	ADAPTOR, AC (AC-E603) (UK)	
⚠	1-465-953-11	ADAPTOR, AC (AC-E604) (US)	
⚠	1-557-787-11	CONNECTOR, CONNECTION	
⚠	1-569-008-11	ADAPTER, CONVERSION 2P (AEP, G, FR, E, EA, IT)	
⚠	1-573-856-11	ADAPTOR, CHANGE (CND)	
	3-367-445-11	HAND BOOK (EXCEPT EA)	
	3-370-440-01	CASE, CARRYING	
*	3-371-758-01	INDIVIDUAL CARTON	
	3-753-912-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE, SWEDISH) (US, AE1, 2AE2, FR, UK, E)	
	3-753-912-21	MANUAL, INSTRUCTION (ENGLISH, GERMAN, FRENCH, ITALIAN, DUTCH) (CND, 1AE2, G, IT, AUS)	
	3-753-912-51	MANUAL, INSTRUCTION(ENGLISH, ARABIC) (EA)	
	3-893-802-08	BOOK, GUIDE, WAVE (EXCEPT EA)	
	8-953-314-95	HEADPHONE MDR-E757/BK SET	
	X-3321-270-1	ATTACHMENT	

****

HARDWARE LIST
****

#1	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT
#2	7-685-152-19	SCREW +BTP 3X25 TYPE2 N-S
#3	7-685-648-79	SCREW +BTP 3X12 TYPE2 N-S
#4	7-624-106-04	STOP RING 3.0, TYPE-E
#5	7-685-132-19	SCREW +P 2.6X5 TYPE2 NON-SLIT
#6	7-624-104-04	STOP RING 2.0, TYPE-E
#7	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Sony Corporation
Personal Communication Group

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